

THE ANNUAL  
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AMERICAN SCHOOLS  
OF ORIENTAL RESEARCH

VOL. XVII

FOR 1936-1937

EDITED FOR THE TRUSTEES BY  
MILLAR BURROWS AND E. A. SPEISER

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PUBLISHED BY THE  
AMERICAN SCHOOLS OF ORIENTAL RESEARCH  
NEW HAVEN  
UNDER THE  
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1938



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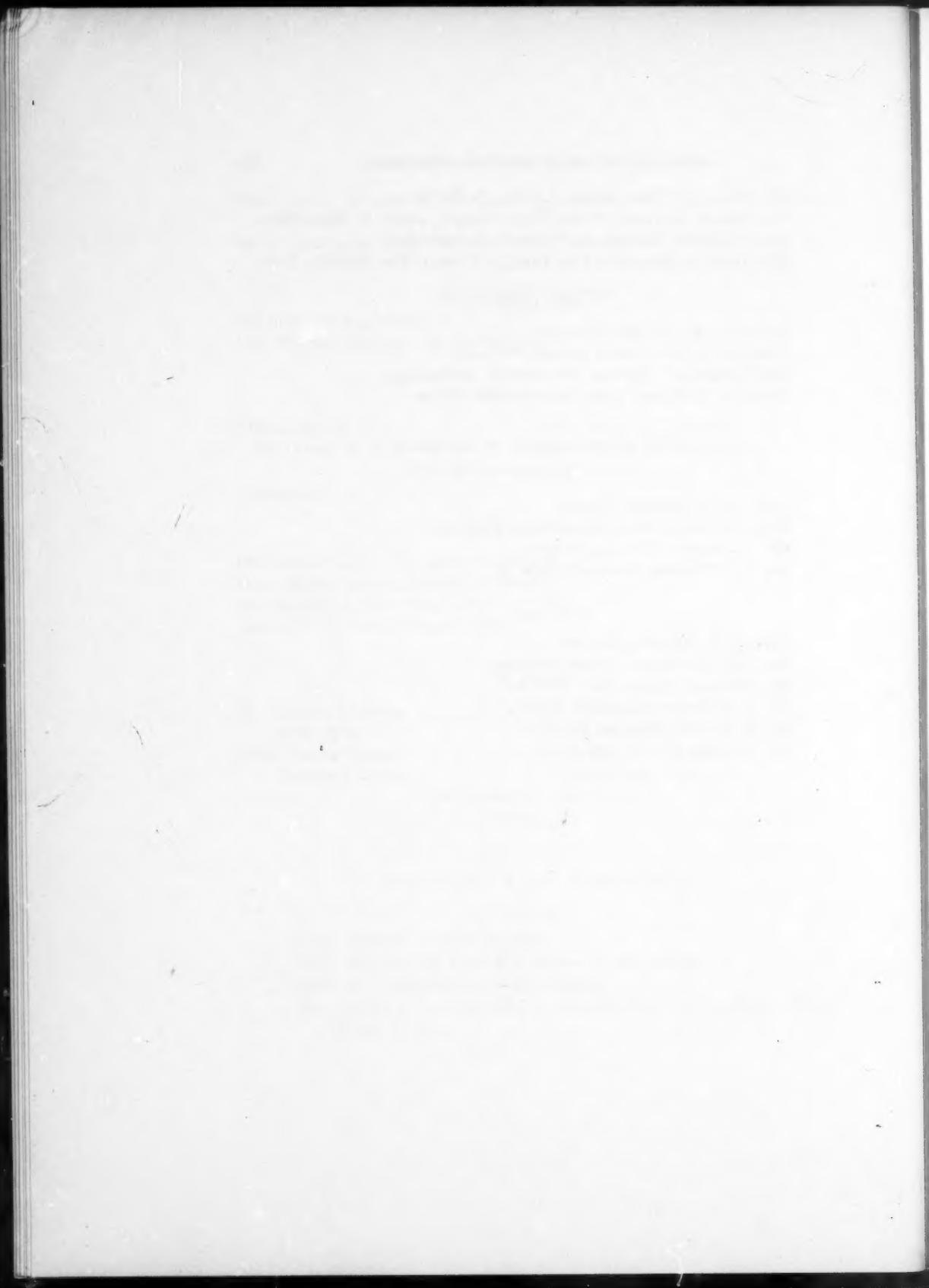
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# **THE EXCAVATION OF TELL BEIT MIRSIM**

(Joint Expedition of the Pittsburgh-Xenia Theological Seminary  
and the American School of Oriental Research in Jerusalem)

**VOL. II**

**THE BRONZE AGE**

**WILLIAM FOXWELL ALBRIGHT**

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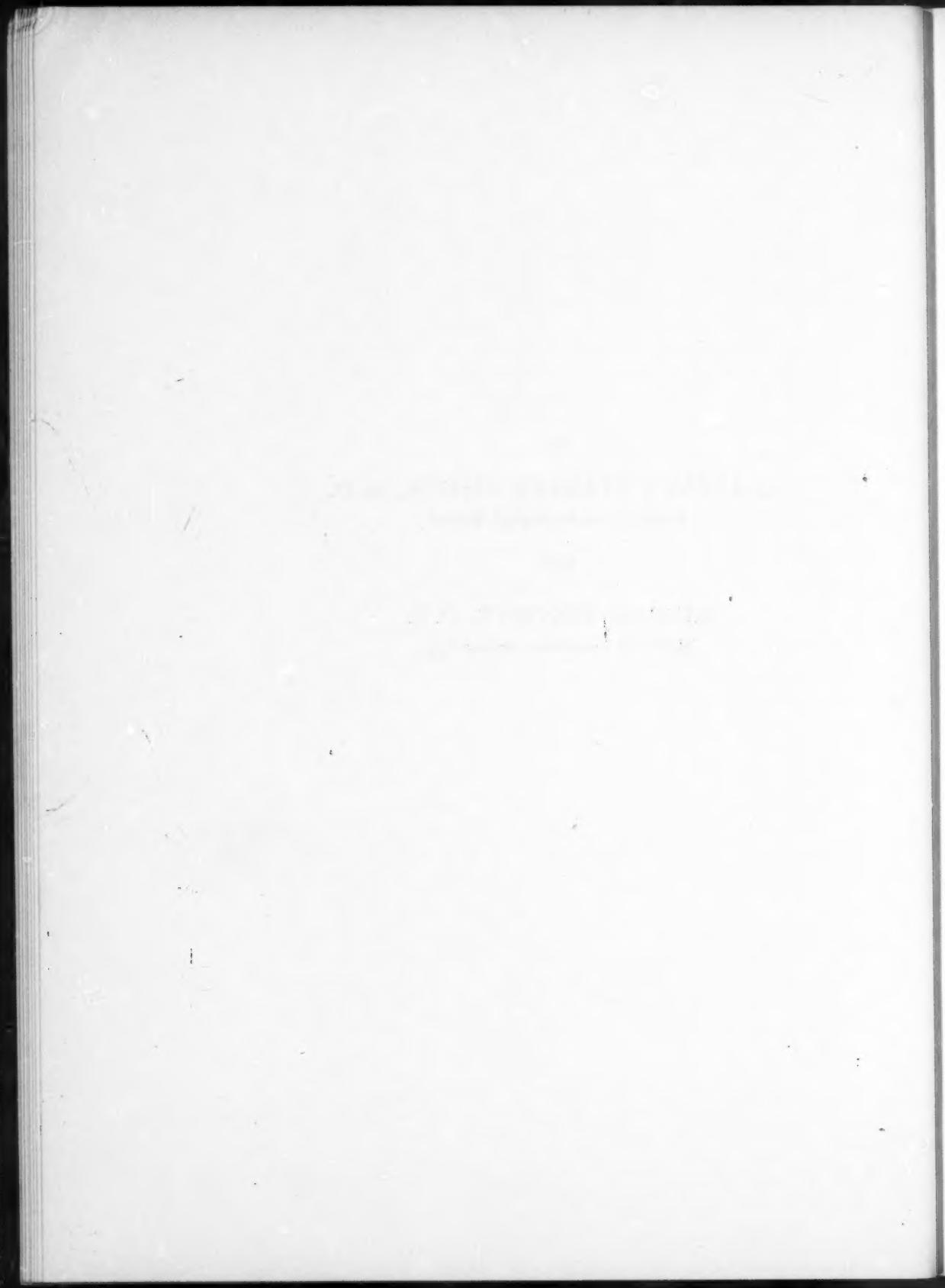
CLARENCE STANLEY FISHER, Sc.D.

*Master of Archaeological Method*

AND

HUGUES VINCENT, O.P.

*Master of Palestinian Archaeology*



## PREFACE

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The present volume resumes the publication of *The Excavation of Tell Beit Mirsim*, begun in 1932 with Vol. I: *The Pottery of the First Three Campaigns*, and continued in 1933 with Vol. I A: *The Bronze Age Pottery of the Fourth Campaign*. I hope to publish Vol. III: *The Iron Age* in two or three years, again as an *Annual of the American Schools of Oriental Research*. The fifth campaign, which we have planned for a number of years, has had to be postponed repeatedly; when it is finished I shall devote a fourth volume to its results.

In the prefaces to Vol. I and I A I thanked the many scholars, administrators, and friends to whom the success of our undertaking has been so largely due. Here I wish only to express my gratitude to my colleagues on successive staffs of the expedition, to whom I owe so much loyal assistance in recording the material here described; I mention especially Prof. J. L. Kelso, Prof. O. R. Sellers, Prof. Nelson Glueck, and Dr. Aage Schmidt. Most of the photographs were taken by Dr. Aage Schmidt and Prof. W. F. Stinespring; others were made by the American Colony (especially Pl. 21 a-b, 23, 24 a), Mr. Khalil Raad, and by myself and various members of the successive staffs. The drawings were made by Mr. L. Hanani, Miss Muriel Bentwich, Mr. A. H. Detweiler, and myself. Maps and plans were made by Labib Sorial (Pl. 46), William Gad (Pls. 48-52, 55), as well as by Mr. A. H. Detweiler and myself, assisted by Dr. G. Ernest Wright and Mr. A. Sachs. I have revised all the plans, introducing necessary changes and additions. The lists and indices are mostly the work of Mr. A. Sachs, who has also given me valuable assistance in correcting text and proofs. Dr. Wright has also helped in compiling and checking tables of provenience, etc., in order to secure the greatest possible accuracy in detail.

It is an unusual pleasure to record again my obligation to the late Dr. M. G. Kyle and to the American Schools of Oriental Research, whose collaboration made the excavation possible. To the Rockefeller Foundation I am doubly indebted, first for its generous grant to the Schools which made it possible for the latter to give me two subventions (1930 and 1932), second for its grant to the Johns Hopkins University for research in the humanities, from which I received several small subventions to assist me in preparing archaeological material for publication. By publishing the successive volumes of this work in the *Annual*, the Schools have made its appearance possible; I wish to thank the

editors, Prof. Millar Burrows and Prof. E. A. Speiser, for their helpful cooperation.

The present volume is dedicated to Clarence Stanley Fisher and R. P. Hugues Vincent, as a slight token of my gratitude for the assistance and inspiration which they have given without stint.

W. F. ALBRIGHT

May, 1938.

## TABLE OF CONTENTS

---

*(The numbers in parentheses refer to sections)*

|   |       |
|---|-------|
| LIST OF PLATES.....   | xix   |
| LIST OF ABBREVIATIONS.....  | xxiii |
| <b>CHAPTER I.</b> Introduction: the Site and its Excavation.....  | 1     |
| Geographical situation of Tell Beit Mirsim (1).—Its immediate environment (2).—Adjacent archaeological sites (3).—Climate and meteorological conditions (4).—Geology and hydrography (5).—Agricultural productivity (6).—Inhabitants of the district; history of the excavation (7).—Early exploration; the first campaign (1926) and its organization (8).—The second campaign (9).—The third campaign (10).—The fourth campaign (11).—Methods of excavating and recording (12-15).—Stratigraphical significance of the undertaking (16).  |       |
| <b>CHAPTER II.</b> Strata J — H (Early Bronze III — Middle Bronze I)....  | 12    |
| Character and distribution of remains of J (17).—Artifacts of J (18).—Chronology of J (19).—Stratum I (20).—Character and extent of stratum H (21).—Artifacts of H (22).—Chronology of H (23).  |       |
| <b>CHAPTER III.</b> Strata G — F (Middle Bronze II A).....  | 17    |
| Character of strata G-F (24).—Stratigraphy of G-F (25).—City-wall of G (26).—City-wall of F (27).—East Gate in G-F (28).—Houses of G (29).—Comparative discussion of G house (30).—Other constructions of G-F (31).—Artifacts of G-F (32).—Ceramic chronology of G-F (33).  |       |
| <b>CHAPTER IV.</b> Strata E — D (Middle Bronze II B-C).....   | 26    |
| Character and extent of strata E-D (34).—Stratigraphy of E-D (35).—Fortifications of E (36).—Fortifications of D (37).—East Gate in D (38).—The E houses of SE 12-13 (39).—Other houses of E (40).—The drainage channel of E (41).—The patrician house ("palace") of D (42-45).—Details of E-D houses in SE 12-13 (46-47).—Other houses and constructions of D (48).—Stela of the serpent-goddess (49).—Astarte plaques of E-D (50).—Scarabs of E (51).—Scarabs of D (52).—Cylinder-seals of E (53).—Stamp-seals of D (54).—Playing pieces and game-board of D (55).—Bone inlay of E-D (56).—Chronology of inlay; comparative material (57).—Bone inlay with incised figures of fawns (58).—Copper and bronze weapons of E-D (59).—Copper and bronze tools of E-D (60).—Copper-working in D (61).—Copper toilet articles of E-D (62).—Jewelry and amulets |       |

|   |           |
|---|-----------|
| of E-D (63). — Spindle-whorls and loom-weights of E-D (64). — Miscellaneous objects of stone and bone from E-D (65). — Skeletal material from E-D (66). — Chronology of E-D (67).   |           |
| <b>CHAPTER V. Stratum C (Late Bronze) . . . . .</b>   | <b>61</b> |
| Character and extent of stratum C (68). — Stratification of C (69). — Phase C <sub>1</sub> (70). — City-wall of C <sub>2</sub> (71). — Buildings of C <sub>2</sub> (72). — Grain-pits of C (73). — Olive-press of C (74). — Cult-objects from an hypothetical temple of C (75). — Libation tray of C (76). — Lion (77). — Astarte plaques of C (78). — Scarabs and scaraboid plaques of C (79). — Other seals of C (80). — Copper objects from C (81). — Beads and amulets of C (82). — Miscellaneous artifacts of C (83). — Skeletal material from C (84-85). — Chronology of C (86-87). |           |
| <b>SERIAL LIST OF SELECTED BRONZE-AGE OBJECTS . . . . .</b>   | <b>81</b> |
| <b>INDEX OF OBJECTS IN THE PLATES OF VOL. II . . . . .</b>  | <b>95</b> |

## LIST OF PLATES

---

- 1: a. Tell Beit Mirsim from the north (May, 1926).  
b. Tell Beit Mirsim from the southeast at the end of the first campaign (1926).
- 2: a. Looking south from Tell Beit Mirsim (the camp of 1926 is in the foreground).  
b. Looking north from the *tell* down Wâd(i) el-Buṭm.
- 3: a. The South Well (Baiyâret el-Burj).  
b. Tell el-Khuweil(i)feh, south of Tell Beit Mirsim.  
c. Tell 'Aitûn, north of Tell Beit Mirsim.  
d. The North Well, near Khirbet Deir el-'Asal.
- 4: a. The expedition staff in 1932 (standing, from left to right: Messrs. Gad, Gordon, Detweiler, Bright, Stinespring, Liggitt, Broyles, Schmidt; sitting, from left to right: Kelso, Albright, Kyle, Glueck).  
b. Yûsif 'Abd el-Hamîd, *mukhtâr* of Dûrâ (1926).  
c. The camp staff in 1928: Zari' Khalil (left), Abû Ilyâs, for many years Howard Crosby Butler's expedition cook (right).  
d. Husein el-Hajj, *mukhtâr* of Dûrâ (1926).
- 5: a. The camp in 1930 (the reed *'arîsheh* at the right proved impracticable and was replaced by a stone building in 1932).  
b. Masonry doorways to occupied caves under Khirbet el-Burj.  
c. Afternoon prayers (*Salât el-'âṣr*) on the *tell* in 1926.  
d. Plastering a dry stone wall with *fin*, camp of 1928.
- 6: a. Stratification of deposits below the latest city-wall in SE 24 and 14, toward end of 1932 campaign (looking south).  
b. Details from the right of 6: a.
- 7: a. The G-F city-wall in SE 14, toward close of 1932 campaign.  
b. Details from SE 24F, toward end of the 1932 campaign.
- 8: a. Stratification of the East Gate, May, 1926, looking south.  
b. A different view of the same loci.
- 9: a. The hall of the G house in SE 23-33, looking north (early July, 1930).  
b. The same, before the removal of the F foundations (June 30, 1930).
- 10: a. The E-D house in SE 13, looking northeast (July, 1932).  
b. The same, looking northwest.
- 11: a. SE 12-13-14, looking southwest (July, 1932).  
b. The same, looking southeast.
- 12: a. The drainage channel of D in SE 12, looking northwest.  
b. The same with the covering slabs removed, looking west.
- 13: a. Remains from E and earlier date on the rock west of the D palace; in the center is an isolated plinth of E (looking northeast).  
b. Foundations of E in SE 22, looking southeast (July, 1932).
- 14: a. The D "palace" in SE 22, looking south (August, 1930).  
b. The same, looking west.
- 15: a. SE 22 D-1, looking southwest (May, 1928).  
b. The D "palace" in SE 22, looking southeast (August, 1930).

16: a. Corner made by the southern end of the M. B. bastion at the East Gate with the M. B. revetment (lower masonry is M. B. II, upper is Iron II), looking downward toward north (May, 1926).  
 b. The same, from a different angle.  
 c. M. B.-II masonry at the bottom of the revetment of the city-wall at the same point.

17: a. Stretch of revetment along southern side of mound, cleared in 1928; most of the masonry belongs to the Iron Age.  
 b. Cut through the revetment in SW 4 (May, 1926).

18: a. Stratum C, looking northeast (July, 1930).  
 b. Section of fallen C roof in SE 22 (August, 1930).

19: a. Stratigraphic section in SE 3, looking southwest (July, 1932).  
 b. Olive-press in SE 23 C-10, from above.

20: a. E-D skeleton in sub SE 23 D-8.  
 b. C<sub>1</sub> sherds from 1932 campaign.

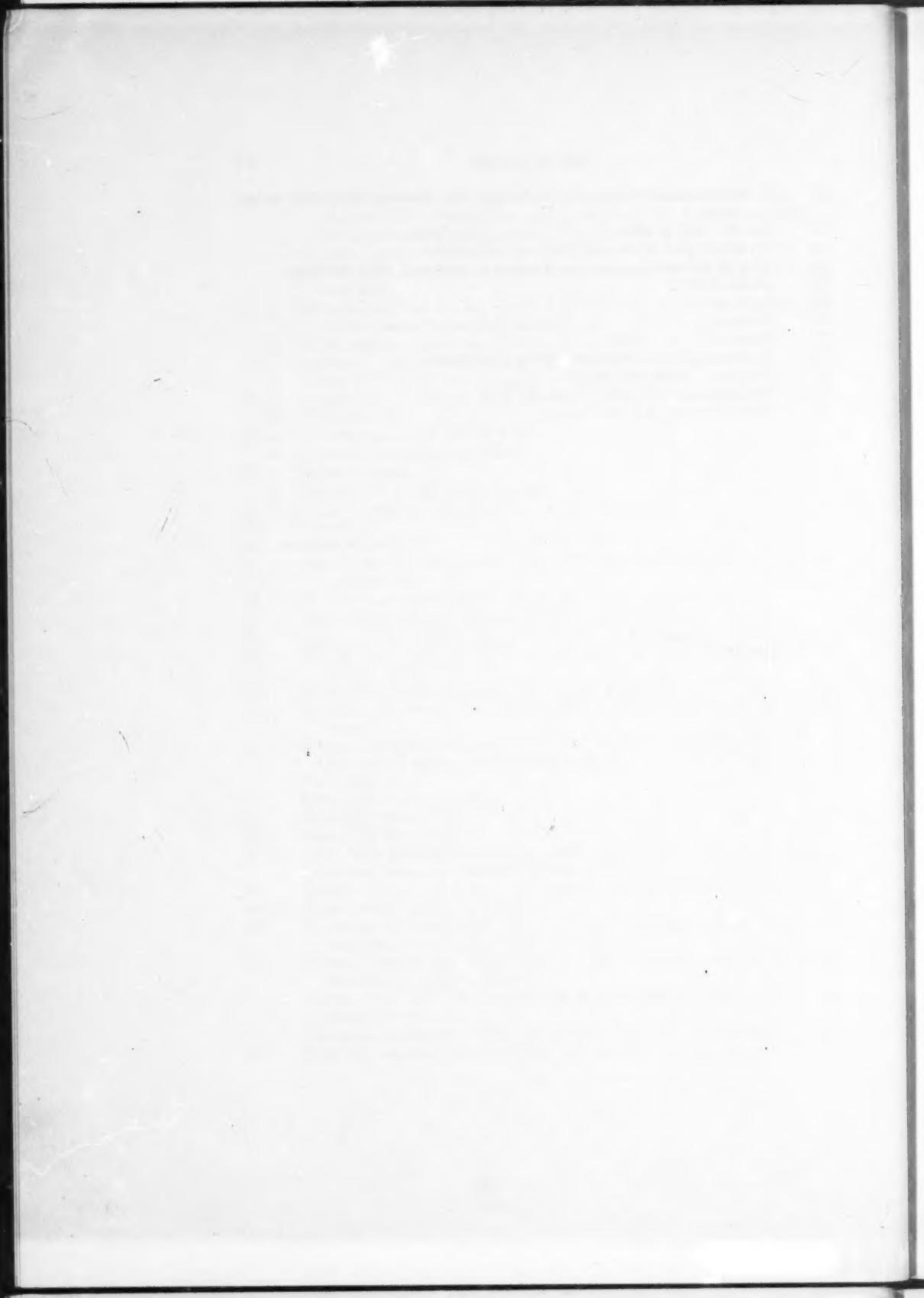
21: a. Serpent-goddess (D).  
 b. Playing pieces and teetotum (D).

22. Schematic reconstruction of stela of serpent-goddess.

23. Lion (C<sub>2</sub>).

24: a-b. Libation-tray (C<sub>2</sub>).  
 25. Astarte plaques and figurines from 1928 (1-5 are from C; 6-7 from B, 8-13 from A).  
 26. Astarte plaques from 1930 (1-5 are from C, 6-10 from B).  
 27. Astarte plaques from 1930-32 (1-6 are from C, 7-9 from E-D).  
 28. Astarte plaques and scarabs (1-5 are from C, 6-8 from B, 9-14 from D).  
 29. Scarabs from E-D (1-5, 7, 9 are from E; 6, 8, 10-13, 15 are from D; 14 is from E-D).  
 30. Seals and sealings, etc., from E-D (1-3, 5, 7 are from E; 4, 6 are from D).  
 31. Miscellaneous objects (5 is E or earlier; 1, 3-4, 7 are from D; 2, 6, 8 are from C).  
 32. Jewelry, seals, and seal-impressions (1-3 are from D<sub>1</sub>; 15 is from D or C; the rest are certainly or probably from C).  
 33. Seals from C.  
 34. Figured bone inlay from D<sub>1</sub>.  
 35. Bone inlay from E-D.  
 36. Bone inlay from E-D.  
 37: a. Inlay from game-board (above), miscellaneous inlay (below), all from D.  
 b. Inlay from broken box of D in position as found.  
 38. Spindle-whorls from D-B (1-38), lava mortars from E (39-40).  
 39. Miscellaneous beads and pendants.  
 40. Axe-heads and adze-heads from E-D (1-6), crucibles from D (7-8), bone awls, etc., from various strata (10-22).  
 41. Copper weapons and objects from D-C (3-4, 6, 8-11, 13-14, 16-19, 24 are certainly or probably from D).  
 42. Copper tools and ornaments from various periods (H-D: 4, 8, 9 are anterior to E).  
 43. Limestone moulds for copper objects (a, e are G-F; b, d are D).  
 44. Stone objects from various periods (all are E-D except 9, 11, 14).

- 45. Terra-cotta loom-weights (1-8 are from D, 9-16 from A), flints from various periods.
- 46. Contour map of site.
- 47. Schematic plan of site, with walls of A in outline.
- 48. Map of bed-rock and earliest masonry in southeast, 1930 campaign.
- 49. Strata H-G-F.
- 50. Stratum E.
- 51. Stratum D.
- 52. Stratum C.
- 53. Vertical sections through excavation in southeast.
- 54. East Gate: plans and sections.
- 55. Patrician house ("palace") in SE 22 D.
- 56. Plans of houses in G and C.



## LIST OF ABBREVIATIONS

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*AA* *Archäologischer Anzeiger.*  
*AAA* *Annals of Archaeology and Anthropology* (Liverpool).  
*AJA* *American Journal of Archaeology.*  
*AJSL* *American Journal of Semitic Languages.*  
*AOF* *Archiv für Orientforschung* (Berlin).  
*APB* Albright, *The Archaeology of Palestine and the Bible* (New York, 1932).  
*APEF* *Annual of the Palestine Exploration Fund.*  
*ASE* Grant, *Ain Shems Excavations I-II* (Haverford, 1931-2).  
*BASOR* *Bulletin of the American Schools of Oriental Research.*  
*BRL* Galliing, *Biblisches Reallexikon* (Tübingen, 1934-7).  
*CBZ* Sellers, *The Citadel of Beth-sur* (Philadelphia, 1933).  
*CES* Rowe, *Catalogue of Egyptian Scarabs, etc., in the Palestine Archaeological Museum* (Cairo, 1936).  
*DP* Watzinger, *Denkmäler Palästinas I* (Leipzig, 1933).  
*E. B.* Early Bronze.  
*G* Macalister, *The Excavation of Gezer, I-III* (London, 1912).  
*HSAB* Grant, *Haverford Symposium on Archaeology and the Bible* (New Haven, 1938).  
*ILN* *Illustrated London News.*  
*J* Sellin and Watzinger, *Jericho* (Leipzig, 1913).  
*JEA* *Journal of Egyptian Archaeology.*  
*JPOS* *Journal of the Palestine Oriental Society.*  
*JSOR* *Journal of the Society of Oriental Research.*  
*L. B.* Late Bronze.  
*M. B.* Middle Bronze.  
*NCEB* Engberg and Shipton, *Notes on the Chalcolithic and Early Bronze Age Pottery of Megiddo* (Chicago, Oriental Institute, 1934).  
*OIC* *Oriental Institute Communications* (Chicago).  
*OLZ* *Orientalistische Literaturzeitung.*  
*PEFQS* *Palestine Exploration Fund Quarterly Statement* (now *Palestine Exploration Quarterly*).  
*PJB* *Palästinajahrbuch.*  
*PPEB* Wright, *The Pottery of Palestine from the Earliest Times to the End of the Early Bronze Age* (New Haven, 1937).  
*QDAP* *Quarterly of the Department of Antiquities in Palestine.*  
*RB* *Revue Biblique.*

S.N. Serial Number (of objects in Tell Beit Mirsim register).

TA Petrie, *Ancient Gaza I-IV (Tell el-Ajjūl)*, London, 1931-4.

TBM I Albright, *The Excavation of Tell Beit Mirsim, I (Annual of the American Schools of Oriental Research, Vol. XII, New Haven, 1932)*.

TBM IA Albright, *The Excavation of Tell Beit Mirsim, I A (Annual XIII, New Haven, 1933)*.

TF Petrie, Starkey, Harding, Macdonald, *Beth-pelet I-II (Tell Fara)*, London, 1930-32.

THBS Rowe, *The Topography and History of Beth-shan* (Philadelphia, 1930).

ZAW *Zeitschrift für die Alttestamentliche Wissenschaft*.

ZDMG *Zeitschrift der Deutschen Morgenländischen Gesellschaft*.

ZDPV *Zeitschrift des Deutschen Palästina-Vereins*.

## CHAPTER I

### INTRODUCTION: THE SITE AND ITS EXCAVATION

1. Tell Beit Mirsim (Pl. 1) is situated in the southern Shephelah of Judah at a point where low hill-country (*Šefēlāh*), high hill-country (*Har*), and dry region of the south (*Nègeb*) nearly converge. West and southwest of Hebron there is a protrusion of the central mountain range westward, a thrust which reaches its farthest extension just southeast of Tell Beit Mirsim in the neighborhood of Sômerah, about an hour's walk from the *tell*. About eight kilometers in a straight line south of the *tell* we come to a point where we debouch into the lower, more open dry lands of the Beersheba district, which were counted to Simeon in antiquity. At the point in question we are just west of the lofty headland of Râs en-Naqb west of 'Anâb, whose height of 617 meters effectually dominates the country below. West of Tell Beit Mirsim lie a few kilometers of relatively hilly land, which now belong to the men of Dûrâ, after which we emerge into the open region of northwest Simeon, from which we reach the sea just south of Tell el-Ajjûl, some thirty km. in a straight line west of Tell Beit Mirsim. The road connection of Tell Beit Mirsim with north and south is excellent; it lies on the most direct and the easiest road from Beersheba to Beit Jibrin. The connections with Hebron are very poor, since the only direct road leads up through the precipitous gorge of Wâd(i) Qeis to Dûrâ (biblical Adoraim) or to a point on the main watershed road leading south from Hebron.

2. The valley (Pl. 2:a) which runs south from a point just below Tell Beit Mirsim to the west is called Wâd(i) el-Baiyârah (Valley of the Well), from the important well (Pl. 3:a) which lies a kilometer to the south, below Khirbet el-Burj (Pl. 5:b). This valley passes by a very easy path to a second north-south valley (Pl. 2:b), this time draining northward toward Khirbet Umm esh-Shaqaf; this valley is called Wâd(i) el-Buṭm. Both valleys still bear the names which were used in the days of the Survey of Western Palestine, sixty years ago. The wide valley which runs from the *tell* northeast toward Khirbet Deir el-'Asal is called the Sahl (or Wâdi) Beit er-Rûsh, from the adjacent ruin (now a hamlet) of Khirbet Beit er-Rûsh. Southeast of the *tell*, across a shallow valley emptying into Wâd(i) Beit er-Rûsh and called Khallet ed-Derâbi\*, lies Khirbet Beit Mirsim, a Byzantine ruin which has been seasonally occupied for several decades. There is one saint's shrine or *weli* now called Nebî Ḥamdal, which was once a ruined Byzantine church, bearing the name Khirbet Abu Sihweileh in the time of the Survey of Western Palestine.

3. The only known sites of pre-Hellenistic occupation found in the neighborhood of Tell Beit Mirsim are Tell 'Eitân ('Aitân),<sup>1</sup> four km. to the north, a little northeast of Khirbet Umm esh-Shaqaf (called Khirbet el-Muheisin in the days of the Survey), and Tell el-Khuweilifeh,<sup>2</sup> eight km. to the southwest. Tell 'Eitân is a long, narrow mound (Pl. 3 : c), which hardly exhibits characteristic *tell* formation (it is called a *khirbeh* by the Survey); it is about 300 meters in length and varies in width from 60 to 100 meters. The estimated area of about two hectares may be compared with the three ha. of Tell Beit Mirsim. The acropolis of the ancient town seems to have been at the southern end, since the mound is highest here, while the northern part is built on a series of shelving terraces. The city wall is traceable for most of its length, but is broken down completely at several points, so that the surface of the site has washed much more than is true of Tell Beit Mirsim. Iron II pottery is scattered in profusion over the surface and on the slopes; Iron I is apparently well represented; the Bronze Age is conspicuous by its absence, so it is hardly possible that this site was occupied by a settlement of any importance before the Israelite period. Tell el-Khuweilifeh is a high conical mound (Pl. 3 : b), with no great average depth of débris, as evident from the fact that the rock emerges above the surface in the highest part of the mound. The dimensions of the latter are 250 meters from north to south and about 150 m. from east to west, but the total area is little greater than that of Tell 'Eitân. The importance of the site from a strategic point of view is considerable, since it commands the intersection of two important natural roads, the road from Beersheba to Tell Beit Mirsim, Lachish (Tell ed-Duweir), and Beit Jibrîn, and that from the southwest (Raphia, Tell el-Fâri'ah) to Zâheriyeh and

<sup>1</sup> This name is not Arabic. Palmer explains it correctly as "The ruin of 'Aitân" (*Survey of Western Palestine: Arabic and English Name Lists*, p. 369). The regular gentilic plural of 'Aitân, "men of 'Aitân," occurs in the name of a ruined village seven miles southeast of Gaza and twenty-five miles west of 'Aitân, Rasm el-'Atâwinah (for the formation see Wright-De Goeje, *Arabic Grammar*, I, 230). Curiously enough Palmer (*op. cit.*, p. 362) failed to make the necessary connection, but explained the latter name as referring to "leather dresses or those who halt by a watering place" (!). The source of the designation is presumably to be sought in the ruined Byzantine-Arab village now called Khirbet 'Aitân et-Tahtâ, just northwest of Khirbet 'Aitân. The name is ultimately Hebrew (cf. 'aif, "hawk," 'et, "stylus," and the dual [?] place-name 'Etâm) or Aramaic (where ôn, Arab. ân is a common diminutive ending), but can hardly have been attached to Khirbet 'Aitân originally.

<sup>2</sup> Pronounced *Ikhweilîf* today. The name, which is not explained correctly by Palmer, is diminutive of a gentilic plural \*Khawâlîfah, formed from some such Arab personal name as *Khâlaf*. This tribe is no longer known (cf. 'Arif el-'Arif, *Târikh Bir es-Sabi* [Jerusalem, 1934], *passim*).

Hebron. Most of the pottery found on and below the site is Iron Age (both I and II), but some Bronze-Age sherds have been collected.

4. Since Tell Beit Mirsim is about 497 meters (1630 feet) above sea-level it enjoys an equable temperature most of the year. Two summer campaigns at the site (June-August) proved that camp-life was very pleasant in the warmest normal weather; indeed, the hottest single period that we experienced was in April, 1928. Following is a sample record of the temperature in the shade of the camp for the period from June 19th to August 9th, 1930, kept by Professor O. R. Sellers.

| Date        | 5:30  |       | 9:00  |                                     | Remarks | Date | 5:30  |      | 9:00  |  | Remarks                               |
|-------------|-------|-------|-------|-------------------------------------|---------|------|-------|------|-------|--|---------------------------------------|
|             | a. m. | Noon  | p. m. | Remarks                             |         |      | a. m. | Noon | p. m. |  |                                       |
| <b>June</b> |       |       |       |                                     |         |      |       |      |       |  |                                       |
| 19          | —     | 82° F | 70° F |                                     |         | 15   | 65    | 90   | 74    |  | No dew                                |
| 20          | 60° F | 82    | 64    |                                     |         | 16   | 65    | 93   | 70    |  |                                       |
| 21          | 70    | 84    | 62    |                                     |         | 17   | 68    | 92   | 73    |  |                                       |
| 22          | 67    | 88    | 72    | A sirocco in<br>the night           |         | 18   | 65    | 90   | 69    |  |                                       |
| 23          | 78    | 102   | 72    | Wind changed<br>just before<br>noon |         | 19   | 62    | 89   | 70    |  |                                       |
|             |       |       |       |                                     |         | 20   | 72    | 92   | 70    |  |                                       |
|             |       |       |       |                                     |         | 21   | 62    | 96   | 74    |  |                                       |
|             |       |       |       |                                     |         | 22   | 67    | 87   | 68    |  | Cloudy fore-<br>noon                  |
| 24          | 66    | 82    | 61    | Cloudy all day                      |         | 23   | 64    | 90   | 70    |  |                                       |
| 25          | 64    | 84    | 61    | Cloudy all day                      |         | 24   | 64    | 92   | —     |  | At 6:00 p. m.<br>80°                  |
| 26          | 60    | 84    | 64    | Clear                               |         | 25   | 66    | 100  | 78    |  |                                       |
| 27          | 61    | 86    | 64    |                                     |         | 26   | 70    | 97   | 72    |  |                                       |
| 28          | 57    | 88    | 66    |                                     |         | 27   | 72    | 94   | 68    |  |                                       |
| 29          | 65    | 88    | 63    | Mist in the<br>morning              |         | 28   | 65    | 95   | 72    |  |                                       |
| 30          | 65    | 86    | 67    |                                     |         | 29   | 69    | 92   | 68    |  |                                       |
|             |       |       |       |                                     |         | 30   | 68    | 90   | 72    |  |                                       |
| <b>July</b> |       |       |       |                                     |         |      |       |      |       |  |                                       |
| 1           | 63    | 88    | 68    |                                     |         | 31   | 69    | 90   | 73    |  |                                       |
| 2           | 66    | 86    | 68    |                                     |         |      |       |      |       |  |                                       |
| 3           | 68    | 89    | 72    | Cloudy                              |         |      |       |      |       |  |                                       |
| 4           | 68    | 90    | 70    | Cloudy                              |         | 1    | 68    | 90   | 74    |  |                                       |
| 5           | 67    | 92    | 74    | East wind in<br>the morning         |         | 2    | 68    | 90   | 74    |  |                                       |
| 6           | 72    | 87    | 71    |                                     |         | 3    | 71    | 94   | 77    |  |                                       |
| 7           | 70    | 94    | 70    | Clear and still                     |         | 4    | 70    | 90   | 75    |  |                                       |
| 8           | 60    | 88    | 68    | Strong breeze                       |         | 5    | 70    | 90   | 75    |  |                                       |
| 9           | 70    | 94    | 77    | At 12:40 97°                        |         | 6    | 68    | 94   | 78    |  |                                       |
| 10          | 70    | 94    | 74    |                                     |         | 7    | 66    | 94   | 74    |  | Hot, north-<br>west wind              |
| 11          | 70    | 89    | 75    |                                     |         |      |       |      |       |  | Heavy mist,<br>shower in<br>the night |
| 12          | 62    | 92    | 74    |                                     |         |      |       |      |       |  |                                       |
| 13          | 73    | 88    | 73    |                                     |         |      |       |      |       |  | Mist in the<br>morning.               |
| 14          | 63    | 92    | 67    | Cloudy,<br>heavy dew                |         | 9    | 77    | 90   | 78    |  |                                       |

In evaluating these temperatures it must be remembered that the air is extremely dry in the hills of southern Palestine and that the heat is also mitigated by refreshing west winds, which begin regularly between 10.00 a. m. and noon, blowing until after the middle of the afternoon.

5. The rock of the Tell Beit Mirsim district is Cretaceous limestone of various types and ages. At present there are no surface springs in the district, a fact which would represent a fatal obstacle to sedentary occupation in the Bronze Age, before cisterns lined with plaster of true lime (calcium oxide), baked in the kiln, had come into use. It was fortunately discovered that there were subterranean pockets and basins of water under some of the wadis; an excellent illustration is the remarkable underground basin of pure water to which access is obtained by the deep shaft of the well el-Baiyârah, south of Tell Beit Mirsim (see above). It seems very probable that this type of "well," part fountain and part well, is meant by the Hebrew term *gullah*, used only in Jud. 1:15 and the parallel passage Jos. 15:19, in both of which the plural is employed. In Zech. 4:2-3 the word is used for the basin of a lamp-stand, on the rim of which were placed seven lamps, each having seven spouts and seven wicks. The precise function of the basin is not clear; presumably it held a supply of oil from which the lamps were replenished as became necessary. The close affinity in meaning between "basin supplying oil for lamps placed over it" and "basin supplying water to a well" is clear.<sup>3</sup>

6. As one goes southward from the central Shephelah to the Negeb there is a rapid decline in the annual rainfall, which is approximately half as much in the Beersheba district as it is in the central Shephelah. Tell Beit Mirsim is intermediate between the two, and may be said to expect a good harvest every other year, on the average. Before the War this expectation was commonly rated as one to three around Beersheba, but the unprecedentedly long droughts of the past fifteen years have naturally altered the situation for the worse. The district is not suitable for viticulture, being too hot and dry. Olives do not flourish there today, but there seems to be no reason why they should not grow and yield a crop, since they abound at Beit Jibrin. Recent efforts by the natives to plant fruit orchards have been hampered by the succession of dry years, but more favorable times will probably see considerable

<sup>3</sup> For a valuable discussion of the candlestick of Zechariah see Möhlenbrink, ZDPV 52 (1929), 257-286. He correctly explains the term *mâšiqöt* as meaning "spouts" (Lampenschnauzen), but the correct derivation of the word is unquestionably (see the lexicographers) from *yqq*, "to pour," not from *swq*, "to be narrow," as he thinks; cf. the parallel Canaanite word *mâšiqtu* from *nq*, "to pour," treated in my *Vocalization of the Egyptian Syllabic Orthography*, p. 44, no. 9. An hypothetical reconstruction of the candlestick (lamp-stand) is now given by Galliog, BRL 349.

development in this direction, though without any remarkable degree of success, for the reasons just given. Spring vegetables grow well enough in good seasons. The region around Tell Beit Mirsim is excellent for raising sheep and goats, since there is plenty of herbage on the hill-sides, in normal times there is sufficient water, and the climate is ideal, being seldom too hot or too cold. It is, therefore, not surprising that the principal industry of the town in the time of stratum A was the weaving and dyeing of woollen cloth.

7. This is not the place in which to describe the modern population of the Dûrâ district, in which Tell Beit Mirsim lies. An account of the social organization of the Rubâ'iyeh and of their history during the past three centuries will appear in Volume III of the Tell Beit Mirsim publication; meanwhile we may refer to previous reports and sketches.<sup>4</sup> Nor shall we describe the history of the excavation in detail, since this has already been done elsewhere.<sup>5</sup> In each chapter will be found a chronological survey of the progress of work in each stratum. In the following paragraphs we shall limit ourselves to a skeleton survey of the excavation, for convenience in reference.

8. Though Tell Beit Mirsim was examined and mapped by the Survey of Western Palestine in 1875,<sup>6</sup> it was neglected by subsequent explorers, and does not appear to be mentioned in any later archaeological literature before 1924. In that year, accompanied by a party from the School in Jerusalem, I visited the site (April 4), and was profoundly impressed with its size, its suitability for excavation, and the probability that it represents biblical Kirjath-sepher or Debir.<sup>7</sup> Publication of the report of this trip in the October

<sup>4</sup> See especially APB 67-70, *Sellin Festschrift*, p. 2.

<sup>5</sup> See APB<sup>8</sup> 63 ff., 235 ff.; M. G. Kyle, *Excavating Kirjath-sepher's Ten Cities* (Grand Rapids, 1934), *passim*; BASOR, Nos. 23, 31, 39, and 47.

<sup>6</sup> Survey, Vol. III, p. 279. The site had been previously visited by Guérin (*Judée*, II, 349), who was not able to draw any conclusions as to its antiquity.

<sup>7</sup> For a discussion of the name *Tell Beit Mirsim* and its identification with Kirjath-sepher see APB 77-81 and the references given there. Since this was written I have examined Zâherlyeh, which is the principal rival, sinking thirteen shafts to bed-rock at various suitable places around the modern village, selected so as to cover all possible areas where early débris might be preserved. The results were described briefly in BASOR, No. 47, pp. 16-7, and will be published in TBM III: scanty Iron II remains were found at the bottom of about half of the pits, agreeing with the contents of tombs discovered by the natives at various times; there was a very little Early Bronze, of primitive type, at the bottom of two pits. Nowhere was any M. B., L. B., or Iron I discovered. Zâherlyeh cannot, therefore, be the site of biblical Kirjath-sepher, as supposed again by Barrois. Noth has lately urged a new identification of Kirjath-sepher, which he locates tentatively on the high hill now called Khirbet Tarrâmâ, south of Dûrâ near the Hebron-Zâherlyeh road (JPOS XV, 44-50, *Das Buch Josua*, 63). His arguments are seductive, but the identification is absolutely excluded by careful ex-

number of the *Bulletin* of the Schools (No. 15, pp. 4-5) led to a correspondence with the late Dr. M. G. Kyle, then president of the Xenia Theological Seminary, with whom I had already undertaken a joint expedition in Moab and the Dead Sea valley (February, 1924).<sup>8</sup> As a result, the first campaign was organized, lasting from March 31 to June 10, 1926, with a week's interruption for the International Archaeological Congress which met in Jerusalem that year. The skeleton organization then set up was maintained through all four campaigns: President Kyle acted as president of the staff and I directed the excavation. It is a pleasure to recall again that there was not the slightest friction between the heads of the undertaking during the eight years of their close collaboration.<sup>9</sup> The first campaign, which was devoted mainly to the clearance of the line of city-wall and to soundings at the East and West Gates, was entirely financed by Dr. Kyle. With the heads were three American assistants, Professor J. L. Kelso, Rev. Mr. Lee, and Rev. Mr. Webster. Professors J. E. Wishart and F. M. Th. Böhl took part in the work of the expedition for short periods.<sup>10</sup>

9. The second campaign began April 2, 1928 and lasted until June 2; this time the excavation was organized on a more stable basis, with the assistance of Dr. C. S. Fisher, then engaged in preparing the Corpus of Palestinian

amination of the site. We visited Yūsif 'Abd el-Hamid's camp at its foot on July 11th, 1932, and searched the top and sides intensively, assisted by a score of Arabs. The rock emerges nearly everywhere at the summit. On the sides and below the site we found numerous sherds of Hellenistic-Roman and Byzantine date; we were also shown several Jewish and Roman coins said to have come from it. There was not a trace anywhere of a pre-Hellenistic occupation. The name stands naturally for Aramaic \**Tūr(ā)-rāmā*, "high hill," just as modern *Tallāzā* stands for *Tār-lāzā* ("Almond-hill"). Elliger (PJB, 1934, 47 ff.) has recently proposed the identification of Tell Beit Mirsim with Eglon, which Noth locates at Tell 'Aītān (*Josua*, p. 66 f.). However, it is hard to remove Eglon so far from Khirbet 'Ajlān, and it is virtually impossible to identify a Canaanite royal city with Tell 'Aītān (see above, n. 1). My emendation of *Qiryat-sannah* (*Jos.* 15: 49) to *Qiryat-sefer* (to which Noth objects) is not only exceedingly easy to explain as a simple copyist's error (since the preceding name is *Dannah*, Gr. *Renna*), but is supported both by the explanatory statement *h̄ē Devir*, "that is, Debir," and by the fact that both the B and the A recensions of the LXX render literally *pólis grammátōn*, "document-city, book-city." Noth's objections are, therefore, arbitrary, and his statement that the city was not included in the list of towns of Judah in *Jos.* 15 is without solid basis. I therefore maintain the provisional identification of Tell Beit Mirsim with Kirjath-sepher but continue to regard it as tentative, basing no deductions on it; cf. also the observations of Galli, BRL 331 f.

<sup>8</sup> BASOR, 14, 1 ff.; Kyle, *Explorations at Sodom*, New York, 1928.

<sup>9</sup> Cf. Kyle, *Excavating Kirjath-sepher's Ten Cities*, pp. 7, 15; BASOR, 51, 5-7.

<sup>10</sup> BASOR, 23, 2-14; Kyle, *op. cit.*, pp. 19-61.

Pottery for the Oriental Institute of the University of Chicago and also titular professor of archaeology at the School in Jerusalem. Through his good offices we secured one of his trained surveyors, William Gad of Asyût in Egypt, together with two Egyptian foremen, 'Adil and Abû Wereideh. The force of local laborers was raised from an average of fifty in the first campaign to between sixty and seventy. Professor Robert N. Montgomery and Dr. Paul Culley acted as volunteer assistants; Dr. Culley helped us materially by giving medical treatment to the natives of the community, thus notably enhancing the popularity of the expedition with the local Arabs. As before, Dr. Kyle financed the entire cost of the campaign.<sup>11</sup>

10. The third campaign lasted from June 16 to August 16, 1930. I had meanwhile resigned the directorship of the School in Jerusalem and had returned to America, so it was found possible to organize work on a more elaborate scale, with nearly twice the budget and a much larger staff. The staff comprised, in addition to Dr. Kyle and myself, Professors O. R. Sellers, J. L. Kelso, Nelson Glueck, Drs. Aage Schmidt and Aapeli Saarisalo. Professors J. A. Huffman, Kurt Galliing, and Dr. B. Maisler joined the staff for short periods. Three surveyors were hired, Labib Soriâl, who took charge of the contour map of the site, William Gad, who made detailed plans, as before, and Bûlos el-â'raj, who assisted both; the first two had been trained by Dr. Fisher. There were three Egyptian foremen, Metwellî, Abû Zeid, and Sâdiq, the first two of whom had also been trained by Dr. Fisher. Mahmûd, Fisher's pottery man, also joined the Egyptian staff, exhibiting his skill in assembling and mending vases to great advantage. During this campaign we employed an average force of from ninety to a hundred local laborers, with a maximum of 120. It was, therefore, possible to dig a much more extensive area than was practicable in earlier campaigns, without weakening the supervision or recording. This time it was possible to relieve Dr. Kyle of over one-third the cost of the campaign, to which the Schools and a group of Baltimoreans contributed liberally.<sup>12</sup>

11. The fourth campaign, from June 15 to August 15, 1932, continued to employ the enlarged organization of the third campaign. In addition to Dr. Kyle and myself there were Professors J. L. Kelso (who acted as assistant director) and Nelson Glueck, Drs. Cyrus Gordon, W. F. Stinespring, and Aage Schmidt, Messrs. A. Henry Detweiler (architect of the expedition), William Gad (surveyor), John Bright, Vernon Broyles, Eugene Liggitt, together with Julian Lake and Stephen M. Reynolds, both of whom joined the

<sup>11</sup> BASOR, 31, 1-11; Kyle, *op. cit.*, pp. 65-134; ZAW 47 (1929), 1-18.

<sup>12</sup> BASOR, 39, 1-10; Kyle, *op. cit.*, pp. 137-157; JPOS XI (1931), 105-20.

staff for shorter periods. Fisher's trained Egyptians, Berberī, Metwellī, and Abū Zeid, acted as foremen, assisted by 'Odeh Jirius of Jifnah; Mahmūd was again pottery-mender. The number of local laborers averaged about 120, and never rose above 140. Since each campaign showed an increase of refinement in technique and recording, this number would have been excessive if it had not been for the fact that there was much more débris to be moved and greater distances over which to move it. Over half the cost of the campaign was paid by the Schools.<sup>13</sup> The total cost of the four campaigns, including many months of work by draughtsmen and artists in Jerusalem, was about \$16,000, of which some \$11,000 was personally contributed by Dr. Kyle. None of this was used for paying transportation outside of Palestine (except once when the architect's travelling expenses were paid) and no salaries nor stipends were paid any of the American or European members of the excavation staff.

12. In the 1926 campaign no attempt was made to apply the Reisner-Fisher technique<sup>14</sup> in detail, owing to the provisional nature of the work, as well as of the organization. I mapped the top of the mound with plane-table and alidade and made a provisional transit survey of the contours of the mound. No ancient walls were removed, so that the plane-table plans of the small areas then dug could be corrected and combined with the plans made in subsequent years. In 1928 William Gad laid out a grid of twenty-meter squares, divided into four quadrants, with the center at the highest point of the mound and approximately in the center of the latter. The numbering of the squares, suggested by Dr. Fisher, is shown on Pl. 47 where the walls of stratum A are schematically indicated. In the detailed maps of particular strata an arrow is inserted to indicate the square to which each square-number applies: i. e., when the arrow points southeast, the square-number applies to the square southeast of it. The loci are all numbered with reference to square and

<sup>13</sup> BASOR, 47, 3-17; Kyle, *op. cit.*, pp. 161 ff.

<sup>14</sup> The most satisfactory general accounts of this technique are given by the following scholars: G. A. Reisner in Lyon, Reisner, and Fisher, *Samaria* (1924), *passim*, especially pp. 34-45; C. S. Fisher, *The Excavation of Armageddon* (*Or. Inst. Com.*, No. 4, 1929), pp. 26-39; W. F. Badè, *A Manual of Excavation in the Near East* (1934), pp. 14-74. Badè's account will give the best general introduction in clear and interesting form; the author does not, however, lay sufficient stress on the fact that he is describing the Reisner-Fisher method of excavation. In the Introduction to his forthcoming *Corpus of Palestinian Pottery* (*Or. Inst.*, Univ. of Chicago), Fisher has a valuable account of his excavating method. Of course, this method is only sound when applied with adequate knowledge of pottery and comparative archaeology; otherwise it may conceal thoroughly unsound execution and interpretation. Meissner's remarks in the *Deutsche Literaturzeitung*, 1926, col. 1913 f., are just as much in place here as in their original setting.

stratum : SE 23 D-8 means "locus 8 in stratum D, square 23, in the southeast quadrant."<sup>15</sup> This system has certain advantages and certain disadvantages when compared to the usual serial numeration of loci, which was employed at Beth-zur in 1931 and at Bethel in 1934, owing to the entirely different situation in these sites. I would not, however, change the system of locus-numbering which was adopted in 1928, since it has proved singularly convenient and practical. The central point of the mound was arbitrarily treated as having the height which is given Tell Beit Mirsim in the map of the Survey of Western Palestine, and all other levels were calculated from it. In 1930 Labib Sorial made a detailed contour map of the site, which appears as Pl. 46. A new Stanley transit and dumpy level were bought, facilitating the task of surveying and levelling at the same time that the accuracy of the results was improved. A mistake made in laying out the grid of twenty-meter squares in 1928 was corrected in 1930, and the old plans were redrawn to incorporate the rectification. In 1932 Mr. Detweiler and I checked Gad's 1930 lay-out of squares and found it very accurate. Mr. Detweiler also prepared several cross-sections, which have been completed by Dr. Wright and myself (see Pls. 53, 54; others will appear in *Tell Beit Mirsim III*).

13. Very great pains were taken with the correct analysis of the innumerable walls and fragments of walls in the southeast quadrant. Owing to the invaluable beds of ashes and the far-reaching destruction of each town before the following occupation, the stratigraphic problem is incomparably easier at our site than it is, for example, at Bethel or in the fourth and subsequent strata at Megiddo. However, even at Tell Beit Mirsim we should have repeatedly found ourselves at a loss and have made wrong analyses and attributions if it had not been for the precision with which we used the pottery criterion. Here my many years of intensive study of Palestinian pottery bore fruit. All problems of the attribution of walls to accompanying strata were attacked by considering the pottery context above adjacent floor-levels, below such floors, under foundations, in walls which were being broken up for the purpose of clearing away an excavated stratum, etc. After some hesitation I have decided to insert in the plans most of the levels which were taken, since this, while filling the plans with seas of figures and making it difficult to get a bird's-eye view of them, has the inestimable advantage of placing as much material as practicable at the disposal of the student who may wish to control our conclusions. However, important or relatively well-preserved house-plans are given in Pls.

<sup>15</sup> Owing to various circumstances, the form in which loci are numbered in the plans sometimes diverges slightly from the form used in the text. However, the slight lack of consistency in form will hardly cause any serious obscurity.

55-56 without level-figures, which can easily be found in the detailed plans of each stratum. In the plans level-figures which apply to the top of a ruined wall are provided with an arrow pointing from the figure to the point levelled, while figures referring to points in the foundation have an arrow pointing to the figure, as well as a line under the figure. It is difficult to employ shading to indicate the preserved height of walls, since each of the detailed plans includes from two to four different phases of construction. Where ambiguity may be feared floor-levels are indicated by the abbreviation "Fl." and bed-rock by "R."

14. All pottery and objects are recorded by locus and day. Where all walls had been cleared away preparatory to digging the stratum below, or where new walls had not yet made their appearance, the square was substituted for the locus. All significant artifacts of not too common a character were entered in the register of objects with sketches and description, dimensions, etc. Nearly everything was drawn and photographed in camp after the 1928 campaign. Few card catalogues of objects were kept during the campaign, since we never quite reached the point where card catalogues became indispensable. On the other hand, unusual care was taken to make drawings accurate; everything has been checked and generally rechecked, in most cases by two members of the staff. The baskets of sherds collected during the day were carefully cleaned, sorted, and promising vases were assembled as fully as possible, after which I examined each basket, noting the number of baskets from each locus, in the order in which they were filled, noting their levels where desirable, and recording the different periods represented by their contents.

15. One feature of the four campaigns at Tell Beit Mirsim which dominated the organization of the work from the beginning, was the pedagogical side. Most of the members of the staff were at first inexperienced, though the proportion of men with no previous archaeological experience declined steadily after the first campaign. Much of the director's time was therefore devoted to instruction—instruction in simple surveying, in drawing pottery, in recording, in analyzing walls, and in colloquial Arabic. In the long run this was very worth while, but it undoubtedly delayed the progress of the work and decreased efficiency. Fortunately, however, young Americans generally make up for their lack of formal education in historical and related fields by mechanical skill and adaptability, and the rapidity with which the younger staff-members acquired the elements of almost any given technique was quite astonishing. One important by-product of the pedagogical method was that I had to defend every step of my pottery chronology and analysis of stratification, and was thus repeatedly forced to reconsider some point or other.

When necessary, Dr. Aage Schmidt assumed the invidious rôle of *advocatus diaboli*; I am greatly indebted to him for his unwearying persistence in criticism and in debate.

16. One other circumstance in connection with the excavation of Tell Beit Mirsim should be emphasized. Tell Beit Mirsim is the only excavated site of any consequence in Palestine where no tombs have been found. It is true that we found at least two Canaanite cave-cemeteries, but they had been emptied of their contents by the Israelites and used for other purposes; for a description of the excavated one we may refer to *Tell Beit Mirsim III*. As a result, we have not the great wealth of complete vases, scarabs, jewelry, weapons, etc., which may be found in the publication of Tell el-'Ajjūl, for example. However, since all of our material has come from a stratified site, most of it in absolutely clear context, we can make up for relative paucity of objects by being able to relate nearly all of them with certainty to a given phase in the history of the city. Our objects can nearly all be used either to date a stratum or to be dated by it. When we recall what proportion of objects came from burials at Gezer, Jericho, Beth-shemesh, etc., our finds no longer appear insignificant—quite the contrary. Strange to say, no native seems to have any idea where the ancient cemeteries of Tell Beit Mirsim were located and not a tomb appears to have been opened and robbed. It will be the task of a fifth campaign to locate the cemeteries of the ancient town, which we have not succeeded in doing hitherto.

## CHAPTER II

### STRATA J-H (EARLY BRONZE III-MIDDLE BRONZE I)

17. Stratum J at Tell Beit Mirsim is represented only by sherds and by a limited number of whole or relatively well preserved vases. No remains whatever of masonry have hitherto been found. Early-Bronze sherds were found sparingly whenever the excavation reached bed-rock over an appreciable area, and examination of the slopes of the hill below the mound also brought in a good many characteristic E. B. sherds. Deposits of pottery with whole or broken vases only occur, so far as is yet possible to determine, in the south-east quadrant; none was found in our excavations in the northwest. The sherds published in the first two plates of TBM I all come from SE 32 and 33, inside the line of the G-F city-wall. Owing to the much larger area of bed-rock which was cleared in 1932, both vases and sherds were relatively abundant; cf. TBM I A, Pls. 1, 19-20. As will be seen from the tables of provenience, the whole pieces came mainly from SE 14 and SE 33. A cave in the rock west of SE 23D-5 yielded several baskets of sherds (Aug. 8-10, 1932), from which the fine store-jar No. 2562 (TBM I A, Pl. 1:2) was reconstructed. A curious fact in connection with the E. B. pottery from our site is that virtually all of it was found in virgin red earth (*hamrā*), and hardly any occurs in the black earth which marks continued occupation. Exactly the same situation was encountered in 1934 at Bethel; the sherds belonging to the first settlement (E. B. IV, but later than our stratum J) all occurred in red earth. The explanation of this fact is, of course, not difficult; the occupation in period J was relatively thin and was not prolonged sufficiently to yield appreciable deposits of earth mixed with ashes and organic products. The hill was originally covered with a comparatively sparse growth of scrub timber, which was cut down for use in building and for fuel during the first phase of the village occupation. After the destruction of trees and bushes, the humus covering the red earth was rapidly washed away by the driving winter rains, which wash and erode with extraordinary speed in Palestine. A good comparison is furnished by the situation in Canada, where rocky islands and hills which were once covered with flourishing forests are now entirely bare. In a large proportion of the exposed hilltop villages of central Palestine the naked rock still emerges at the top, in spite of several thousand years of more or less continuous occupation. So it was in the late third millennium at Tell Beit Mirsim: even the red earth was only saved from being washed away when it lay in pockets in the rock, or in depressions and caves. Consequently

the earliest walls on the site generally stand on the virgin rock. The fact that the city-wall of G-F is not built on the rock, but that there was a considerable deposit of black earth and foundations under it, proves the existence of a previous city-wall in period H, but there is no corresponding evidence for the situation in period J. All we can say is that the occupation extended over most, if not all of the later site.

18. Aside from pottery, the only artifacts found in stratum J were flints, both sickles and knives. On Pl. 45:18-24 are figured some characteristic flint knives of strata J-H; the only ones discovered in certain context belong to H, but it is probable that many of those marked "sub-G" are from J. Some of the sickle edges on Pl. 45:25-36 presumably belong to period J, but our material is too scanty and ambiguous to permit of any certainty in most cases. The writer has discussed elsewhere the question of when double-edged flint knives (Neuville's Canaanite type) went out of use in Palestine. At Ader in southern Moab this type seems to have died out after stratum C, which corresponds chronologically to our J. In Western Palestine, as I am informed by Dr. G. Ernest Wright on the basis of his intensive work on the Beth-shemesh flints and his comparative study of other material, the typical Canaanite knife, flint arrowhead and fan-scraper die out at the end of E. B. IV or the beginning of M. B. I.

19. In the four and a half years that have elapsed since the appearance of TBM I A, our knowledge of the chronology of the Early Bronze has been completely revolutionized by the successive publication of early stratified sequences from Megiddo (1934), Beth-shan (1935), Jericho and Ai (1935-6). Wright's monograph (PPEB, 1937) has now combined the stratigraphical and the typological data from all available sites and finds, yielding a satisfactory synthesis, which completely antiquates the writer's previous discussions and conclusions. This is not the place in which to cover the ground afresh; we shall therefore content ourselves with a reference to Wright's admirable study. Tell Beit Mirsim J belongs to the latter part of E. B. III and the early part of E. B. IV (cf. the Table of Related Deposits II, PPEB 108). It is definitely older than the earliest stratum at Bethel and contemporary deposits elsewhere. On the other hand it is more closely related in part to Tomb A of Jericho than might appear from Wright's summary discussion (PPEB 78, 89). The writer would now date Tomb A between 2500 and 2300 B. C. and stratum J between 2500 and 2200 (pushing the date down to include such late forms as TBM I A, Pl. 1:8, though this piece may perhaps belong to stratum I). The whole or reconstructed vases from J belong to the end of the period, about the 23rd century. It must again be remembered that these are minimum dates, based

<sup>1</sup> Cf. § 32, n. 4.

on a minimum Egyptian chronology (Menes is dated c. 2900 B.C.), and that they may all have to be raised slightly.

20. Our knowledge of stratum I at Tell Beit Mirsim remains where it was after our 1930 campaign, since no direct light on it was shed by the work of 1932. So far as it goes the evidence for its independent existence is solid. In our first excavation to bed-rock, in 1930, we found several semi-continuous ash deposits extending over the area cleared in SE 32 and 33, inside the line of the G-F city-wall. Two of these ash deposits separated I from H and J from I. Moreover, a pavement of cobble-stones near the NE end of SE 33 seems to belong to stratum I. In this vicinity the latter was preserved mainly in depressions between the rocks, a circumstance that suggests an explanation for its apparent absence further west in the excavation of 1932: the rock surface was much less broken there, so remains of phase I may have been washed away by the winter rains before the settlement of period H. For practical purposes, however, stratum I may be treated as an early phase of H; the only clear-cut ceramic differentiation between I and H was the presence of pushed-up-scallop, folded, and envelope ledge-handles in the former, a fact clearly shown in 1930 and partly confirmed in 1932, when the envelope-handle was found again below a typical H layer (though not in a clearly stratified context).<sup>2</sup> The chronological position of these handles has been shown clearly by subsequent work at Ai and Bethel, where we have a continuous series of deposits from the beginning of the third millennium on. The occupation of Ai came to an end late in the period of pushed-up ledge-handles, just when the pushed-up-scallop type was being introduced. At Bethel, which was first occupied slightly later, we find folded and pushed-up-scallop handles, all of form and paste which make them intermediate between E. B. IV A and M. B. I. Ader B represents the same evolutionary stage of E. B. pottery.<sup>3</sup> The writer would therefore consider stratum I as marking a period of transition (perhaps not homogeneous) between J and H, and would date it about the twenty-second century B.C., with possible extension downward into the twenty-first, depending on how much pottery of H type found in I context really belongs with the ledge-handles described above.

<sup>2</sup> See TBM I, Pl. 3: 38-40 (upside down) and § 15; TBM I A, § 6. The nomenclature used for ledge-handles in TBM I and IA requires serious modification. The basis for a rational nomenclature has now been laid by Engberg and Shipton, NCEB 13 ff., who distinguish satisfactorily between wavy, oblique wavy, pushed-up, and folded types. I prefer to use Guy's happy term "envelope-handles" for their second type A (middle of top row, Fig. 5) and to restrict "folded" to the first A and to AA. Moreover, Fisher's "scalloped" is preferable to their "thumb-indented." We must also add the type "pushed-up-scallop" (PPEB 79).

<sup>3</sup> See the survey by Wright, PPEB 78 ff.

21. With stratum H we find ourselves in a walled town, as shown both by the comparatively thick deposits of black earth in SE 32, 33, 23, 24, 13, 14, and by fragments of solid masonry preserved on the inside of the G-F city-wall. It is true that these fragments, adjoining SE 33 G-2 and SE 23 G-4, respectively 1.60 and 1.80 m. thick, do not themselves belong to the fortifications of the town, but their position on the edge of the hill is such that they can hardly have been preserved from obliteration unless they were protected by ruins of a wall, afterwards demolished in order to furnish materials for the G-F city-wall (cf. § 26). There are numerous other fragments of walls in SE 32, 33, 22, 23, 13, and 3, but none of them are sufficiently well preserved to make deductions possible. Fallen mud-brick walls were noted particularly in SE 32 and 33. Particularly interesting are the storage caves in SE 22 and 23 and in SE 13, both with entrances lined with rude masonry. The general impression made by the extant fragments of walls as well as by the pottery and objects found, is that of a provincial town, thinly peopled and without wealth; the absence of traces of massive construction or fortification speaks against a feudal organization of society and in favor of a communal organization of the type familiar in Tell Beit Mirsim B.

22. No artifacts, other than pottery, could be attributed to stratum H except comparatively few objects in flint, shell, bone, copper, and stone. Examples are the whetstone illustrated Pl. 44: 11, the bone awls shown Pl. 40: 14, 16, and the shell pendant on Pl. 39: 50.<sup>4</sup>

23. We are now in a better position to estimate the chronological position of stratum H than we were when TBM I was written. Five years ago there had been no adequate stratigraphical excavations in Syria; now the work of McEwan at Tell ej-Judeideh (AJA, 1937, 10-11) and of Ingholt at Hamā has greatly clarified the chronology of this age.<sup>5</sup> There is no longer any doubt that the caliciform series of Syria lasted approximately from the 24th to the 20th century B. C.; cf. McEwan, *loc. cit.*, Albright, AJA, 1937, 500. The incised ware of Palestine did not arise from the Syrian class until late in the history of the latter, after the combination of painting with incised ornament

<sup>4</sup> Following are selected additional examples found in certain H context but not illustrated here: S. N. 1069, a copper pin from SE 33; S. N. 2527, a dagger-pommel of alabaster, elliptical in vertical cross-section but with the bottom broken, from SE 23 sub G-3 (4.9 x 3 cm.); S. N. 2528-2530, flint knives from the same locus; S. N. 2532, piece of copper knife from SE 23 near the H wall.

<sup>5</sup> Further data are given in the forthcoming monograph by Ann Hoskin Ehrich, *The Pottery of the Jebelch Region* (describing the stratigraphical material from Forrer's soundings at Qal'at er-Rūs and Tell el-Sūkās south of Ugarit), which will appear as a *Memoir of the American Philosophical Society*.

had yielded to a preference for incised decoration without painting. Allowing from one to two centuries for the duration of this pottery in Palestine, we can hardly be far wrong in dating it toward the end of the corresponding period in Syria, i. e., between 2100 and 1900 B. C. The end of the period is roughly fixed by the beginning of stratum G; cf. § 33, below. The diffusion of this culture in other parts of Palestine has already been discussed JPOS XV, 219 ff., 231 ff., so we need not repeat what was said there, especially since Dr. G. Ernest Wright is preparing a study of the archaeological material belonging to it.\* The poverty of Tell Beit Mirsim H is entirely in accord with the situation elsewhere at this time. We must apparently suppose that Western Palestine was overrun with nomadic tribes from the desert during the last quarter of the third millennium and that the nomads began settling down in the twenty-second and the twenty-first centuries B. C. At all events, it was not until the eighteenth century that Western Palestine became more densely peopled, as we shall see below.

\* In this study Wright has collected all the available material and has established the relative chronology of the more important groups. The store-jars of Tell Beit Mirsim H are, for instance, identical in type with jars from Tell ed-Duweir but are later in form than store-jars from Bethel, Beit Sahūr, and Tell el-Ajjūl. We may provisionally date the latter about the twenty-first century B. C. and the former about the twentieth century. [Wright's paper will appear in BASOR, No. 71.]

## CHAPTER III

### STRATA G-F (MIDDLE BRONZE II A)

24. With G we reach the first stratum in our site where fortifications and house-walls are adequately preserved. In the southeast quadrant a line of nearly eighty meters of massive city-wall was cleared in 1928-1932, extending the entire length of the excavated area. A cut through the glacis just beyond to the west in SW 4 showed that it continues in that direction; soundings at the East Gate in 1926 demonstrated that the line of G-F fortification continued beyond the gate to the northeast. It is probable that a good 150-meter stretch of this wall will ultimately be brought to light. A ring some twenty meters wide, just inside the line of wall, has been protected from erosion by the latter, so in it are more-or-less continuous remains of house-walls from G and F, especially from the former. Elsewhere on the site we have so far only the evidence of sherds to prove that approximately the whole area of the later town was occupied at this time.

25. Strata G and F are sharply demarcated from H below and from E above by a number of clear indications. First must be counted the ash deposits which separate H from G, G from F, and F from E. Where F walls are preserved there are almost always remains of G foundations under or adjacent to them, always at a lower level. Moreover, except in the case of the city-wall itself, none of the walls of G appears to have been reused in F, whose foundations are entirely independent and generally run at an angle to the lower G walls. Pottery is a sure criterion for distinguishing between G-F and E, and in 1932 was found to be equally clear for the separation of G-F from H, but wares and forms of G cannot be distinguished from those of F in the present state of our knowledge. How clear the criteria in question are, may be illustrated by the fact that in 1932 we cleared and identified the F and G strata in SE 23 before we tied them up with the corresponding remains in SE 32 and 33 which had been excavated in 1930; half of the best-preserved G house was thus cleared in 1930 and the other half in 1932.

26. The great city-wall in the southeast is unique in being the only such wall in Palestine that can be attributed with certainty to the period between 2200 and 1800 B. C. In period G it averaged from 3.20 to 3.30 m. in width in all segments between the towers; the middle segment in SE 23-24 and the tower to the east were strengthened in period F by an inside buttress wall which varies in thickness from 30 to 50 cm., so that the F wall reaches a maximum thickness of some 3.70 m. between the towers. The two preserved towers are

10.00-10.50 m. long and at least 6.00 m. wide, projecting about 1.50 m. into the city and at least as much to the exterior. They are about 23.00 m. apart, and the distance from the west one to its western unexcavated neighbor was at least 14.00 m. The distance from the east tower to the western beginning of the fortifications at the East Gate cannot be given exactly until the complete excavation of this area. To judge from our soundings (Pl. 54, above), the prolongation of the NW-SE transverse wall at the southwest corner of the G-F remains under the East Gate would reach the city-wall 17.00 m. east of the eastern tower; the G-F city-wall actually passes below the Iron Age constructions at the Gate 18.50 m. east of this tower. It follows that the city-wall continued inside the East-Gate fortifications, probably stopping at the gateway proper. The angles made by the segments of the city-wall naturally vary somewhat with the contours of the hill. The westernmost segment meets the central one under the west tower at an angle of 148°; the easternmost one meets the central segment at an angle of 160° to 163.50° (depending on the line that is taken). The easternmost segment runs at an angle of 172° to the foundations of the gateway fortifications, a fact which suggests that this segment may meet the prolongation of the next segment to the northeast, on the other side of the East Gate, at an angle of  $\pm 164^\circ$ . In other words we seem to have as regular a polygon as the oval shape of the summit (shown by the line of Iron-Age city-wall in Pl. 47) will allow. The masonry of the wall can be studied from the photographs in Pls. 6 : a-b and 7 : a-b, as well as from the plan, where individual stones are represented. Pl. 6 : a shows the westernmost tower of G excavated (on the right); more detail appears in Pl. 6 : b. Pl. 7 : a shows the western corner of this tower and a stretch of G city-wall beyond to the west. Pl. 7 : b illustrates the eastern corner of the same tower, with a stretch of F buttress-wall covering the original inside face of the G wall (to the left). Like the earlier city-wall of Ai this wall is laid in roughly regular courses of comparatively small stones, sometimes left without any attempt at squaring, sometimes hammer-dressed. Most of the stones, even in the face of the wall, do not average over 30 cm. long. Near the East Gate the wall is much more strongly faced, and the facing stones sometimes are 80 cm. to a meter in length. The G wall is nowhere founded on the rock; its base is always from 40 cm. to 1.10 m. above the rock, so far as our excavations (ranging from SE 43 to SW 4) indicate. Everywhere we find the lowest course set in the upper part of the ash-filled deposit which marks the destruction of stratum H, a fact from which it follows that the foundation of the city-wall was laid in a wide, but shallow trench, only a course or two (i. e. 20-40 cm.) deep. There is nowhere any evidence of a protecting glacis on the outside of the wall; the glacis built against it in SE 14-SW 4 belongs to period E-D, as illustrated by the fact

that the eastward continuation of this glacis no longer touches the G-F wall in SE 33-43. This fact is in agreement with the evidence from Ai, where the E. B. city-walls rise sheer from the ground, without a protecting glacis.<sup>1</sup> Below, §§ 36-37, we shall describe the history of the M. B. glacis in our site.

27. In the preceding section we referred to the consolidation of certain parts of the city-wall of G by an interior buttress lining in period F. This is established beyond doubt by the fact that this interior lining is built over the ruined foundation of the south corner of a G house (south of SE 23 F-14), while several F house-walls are built against it. Combined with the evidence found inside the city wherever G-F remains are preserved, it is thus clear that a partial destruction of the city-wall of G accompanied the complete destruction of the adjacent houses. In early July, 1932, a trench was sunk to bed-rock along the outside of the G-F wall in SE 4 and 14. Here the wall stood to a height of 3.35-3.45 m. above its foundations, which were themselves 1.00-1.10 m. above bed-rock. Just two meters below the top of the wall (so far as preserved) were found clear traces of reconstruction, extending to the inner face of the wall as well as to the outer one. Great holes and breaks between the construction above and that below were smeared over with gypsum plaster (simulating stone) for concealment. Above, the face was more poorly constructed than below. Moreover, the inevitable settling and sagging of so badly built and so heavy a structure led to a double bulging, at one angle below the line of reconstruction, and at another above this line. Finally, a talus of ash-filled earth, containing sherds of period G, sloped downward from the line of reconstruction, not having been cleared away when the wall was rebuilt. The haste here indicated may be another illustration of the short duration of period F. Outside the city-wall, above this talus of débris, lies the filling of the E-D glacis, here in layers of gravel and red earth; but this is unquestionably not

<sup>1</sup> Nowhere did Mme. Marquet-Krause find any trace of a true, stone-lined glacis or revetment in her work at Ai, as I can confidently state after nearly a score of visits to her *chantier* during all stages of the excavation. The reconstructed glacis of Vincent, RB, 1937, pp. 236 f. and Fig. 2, has no factual basis. It is possible that a low wall, only two or three courses high, on the south served to support a crude embankment of earth and small stones, heaped against the base of the exterior wall, but no certain trace of the lining of beaten earth supposed to have covered this "glacis" by Vincent could be found; cf. Mme. Marquet-Krause's cautious wording, *Syria*, XVI, 338 below. The supposed Bronze-Age wall of Tell en-Naṣbeh is Iron-Age (QDAP V, 209). In this connection it may be noted that the three exterior walls of Ai correspond strikingly to the three exterior walls of the North-Syrian town of Sikumanum, captured by Narām-Sin of Accad (cir. 2420-2380 B.C.); see Gadd and Legrain, *Ur Excavations: Royal Inscriptions*, pp. 74-82. It is true that the walls of the Syrian city are described as considerably larger and as much farther apart, but the essential principle of three concentric walls is present in both cases at nearly the same period.

contemporary with the F wall, as we thought at first. Inside the city-wall we were also at first misled by the fact that E and D walls were built against the F reconstruction, but it later became certain that this apparent anomaly is simply due to the fact that the interior face of the wall remained exposed, rising to a considerable height above the adjacent house-floors. In fact we found that the old G-F wall rises to a point just under the foundations of stratum A in SE 4-SW 4.

28. From the fragments of walls under the East Gate, shown in outline and vertical cross-section on Pl. 54 and in photography on Pl. 8, it is unhappily not possible to reconstruct the gateway, which remains to be cleared in a future campaign. In the locus marked "a" in the plan and the photographs was found black earth containing sherds of G-F type,<sup>2</sup> while on its original earth floor lay a roughly shaped stone vessel, 56 × 40 cm., broken into several pieces and turned upside down. Whether we are dealing here with casemates, store-rooms, or possibly even with dungeons is not clear, but it is obvious that the gate-tower had rather a complex plan. In the absence of comparative architectural material of the same age, reconstruction would be guess-work.

29. By far the best preserved house of period G lies partly in SE 32 and partly in SE 33. On Pl. 56 will be found an outline plan, omitting various details for the purpose of clearness; for details as well as for photographs we refer to Pls. 49 and 9. Painstaking analysis demonstrated conclusively that the house exhibits two successive periods of construction separated by a fire which was probably local, to judge from the absence of other evidence for a general conflagration in the middle of the period covered by stratum G. The exterior walls have a stone substructure set in a matrix of *tin* (screened earth, sometimes with ashes, mixed with chopped straw, and kneaded with water); on this substructure there stood a wall of *libn* (adobe brick), the fallen remains of which were found in the court and around the outside of the house. The northeast wall projected beyond the north corner of the house to the northwest in phase G<sub>1</sub>; the southeast wall seems also to have originally projected considerably farther in a southwesterly direction, to judge from the abrupt way in which the line of wall is broken off in phase G<sub>2</sub>. The original size of the hall

<sup>2</sup> G-F sherds from the lowest masonry phase of the East Gate are illustrated TBM I, Pl. 46: 1 (with double ridge on exterior of inverted rim, as in H-F sherds discussed TBM I, § 12, TBM I A, § 9), 2, 4, 7, 8, 12 (2 is richly burnished piece of type TBM I A, Pl. 5:5; 4 and 8 are of type described TBM I A, § 21, on Pl. 22: 16 ff.; 7 and 12 are both richly burnished), 14 (I-H), 16 (I-F), 17 (envelope handle of I type, drawn upside down), 18 (I-H), 19 (G-F), 22 (G-F). Reexamination of this material Dec. 28, 1935, confirmed my previous impression that, aside from a very few earlier sherds, all sherds found under the preserved top of the G-F phase belong to G-F.

(SE 33 G-1) may be approximately reconstructed from the position of the three post-supports, the northwesternmost of which was presumably about as far from the contiguous end-wall as the southeasternmost one was in G<sub>2</sub> from its end of the hall; this would make the hall about 11.20 m. long in phase G<sub>1</sub>, with the same inside width of 4.50 m. The hall opens along the inside longitudinal wall into three rooms, two doors being preserved in G<sub>2</sub> and one perhaps being blocked or eliminated entirely. It is very interesting to note that, given the original length of the hall which we may postulate, we have a symmetrical arrangement of three rooms, the end ones being about 3.50 m. long and the middle one measuring nearly 2.00 from northwest to southeast. The middle room (SE 33 G-3) opened out originally toward the southwest into a court-yard (?); only the northwest jamb of this door is preserved and the door may have been blocked in G<sub>2</sub>, since there is another house of the latest phase of G which is built against our house at an angle. The partition walls of the house seem to be built like the outside walls, but in places there are no signs of stones, so the foundations may in part consist of *terre pisée* (we could not find any indications of the use of *libn* in the substructure), to which we referred above as the "matrix" of the substructure. Usually a later building phase has a higher floor-level than an earlier one, but here the opposite is true, and it appears quite certain that the original floor of the hall in G<sub>1</sub> was some 15-20 cm. higher than its level at the end of G<sub>2</sub>. Following is the evidence for this paradoxical deduction. First, the floor-level of the hall in its final phase of occupation is below the level of the outside foundation trench in several places, so that the *fin* plaster on the inner face of the outside wall is actually smeared on the earth under the foundations of the wall. In keeping with this observation is the fact that the threshold level in the doorway in the northwest wall, with a heavy door-socket in it, seems to be original, though it is 25 cm. above the latest floor-level. Our estimate would make it about 10 cm. above the original floor of the hall, which is quite sufficient for ordinary houses of the age. Second, there is a doorway 90 cm. wide at the northern corner of the hall, with a threshold consisting of stones in a matrix of *fin*, neatly laid over the original floor-level of the hall, marked by a hard, ash-covered surface under the stones. Here the original floor-level is 15 cm. above the final one. Third, the post-supports in the axis of the hall, which are also of stone or stones set in *terre pisée*, now project about 20 cm. on the average above the adjacent floor, whereas they should be roughly flush with it; originally they were set in holes in the ground, as at Ai, etc., instead of being built above the floor in so insecure a way that we were long puzzled as to their true function.<sup>22</sup> It is not difficult to infer

<sup>22</sup> The earlier erroneous interpretation is given BASOR 30, 4, and especially JPOS XI, 28, and APB 83 f. Quite aside from intrinsic evidence, the Ai parallel seems decisive.

why the original floor-level of the hall was lowered. After the house of G<sub>1</sub> had been destroyed by fire (as deduced from such indications as the ash-level 15 cm. under the top of the threshold of the north door of the hall), the *tin* floor was saturated with carbonized matter to a considerable depth, just as was true of the latest floor when we cleared it. In order to secure a fresh floor without too much work changing thresholds, post-supports, etc., the ash-filled earth in the hall was simply scraped away until a firm, clean layer was reached, on which a new *tin* floor was laid. It is likely that this hitherto unrecognized practice accounts for much of the curious absence of superimposed floor-levels in long-occupied houses at Tell Beit Mirsim and in other sites. However, in room SE 33 G-5 we found that the reverse was true, and that the floor of G<sub>1</sub> was covered with a second floor, 15 cm. *higher*. In this room we were able to recover complete bricks from the superstructure, measuring some 34 by 16(17) cm. on a side. Among other changes in G<sub>2</sub> there was particularly the reconstruction of the northern end, mentioned above; details will be clear from the plan on Pl. 56. The north door may have opened out into a new court or into a narrow storeroom or stair-well, since all G remains were obliterated, but the latter is much more likely. It should be noted that much wood was used in construction, for doors, ceiling and roof, posts to support the latter, etc.; the hall was full of oxidized remains, all so badly preserved that identification of the wood proved not to be feasible. Since the walls, both outside and inside, average 80 cm. in thickness, it follows that there must have been a second story for living purposes; we may suppose that the southwestern half of the upper floor was occupied by rooms, the rest being an open terrace. Access to the upper floor was presumably gained by a stout ladder or a light wooden staircase, evidently utilizing the space at the north end of the hall.

30. Owing to the paucity of comparable material from early sites in Palestine hitherto excavated, there seems to be only one partial parallel—the Early-Bronze palace of Ai, cleared in 1934 by S. Yeivin and Mme. Marquet-Krause.<sup>8</sup> This palace exhibits two clearly distinguished phases of construction, the first of which probably belongs to the third quarter of the third millennium while the second is to be dated about the beginning of the fourth quarter, shortly before the final destruction of the city. The palace consisted essentially of a hall measuring 20 by 6.50 m., with a door in the middle of the east side; it is thus an excellent example of the *Breithaus* type. At the corner on the right of the door of admission was another door giving access to a corridor 3.25 m. wide (in the first phase), changed to a room 4.50 m. wide in the second phase. The position of the two doors resembles almost exactly that of

<sup>8</sup> See the preliminary report of the latter, *Syria* XVI, 327 ff., and Dussaud's study, *ibid.*, 347 ff.; Vincent, RB, 1937, 237 ff.

the two corresponding doors in the G house. Moreover it is probable that both the doors to the right opened on a stairway, indicated in my reconstruction of G and in both Vincent's and Dussaud's reconstructions of the Ai palace. In both halls the ceiling was supported by wooden posts, four massive ones at Ai and three more slender ones at Tell Beit Mirsim. In both the stone substructure was buried beneath the (original) floor. The remainder of the G house shows marked development when compared with the Ai palace; there is nothing in the former comparable to the corridor running around three sides of the latter, and the rooms at the rear already approach house-plans of the Middle and Late Bronze Ages. The striking basic similarity points, however, to a continuous local Canaanite tradition from the middle of the third to the beginning of the second millennium, just as is true of the city-wall (see § 26).

31. Unhappily no house of stratum F is sufficiently well preserved to make a restoration possible in the present state of our knowledge. In general the character of the masonry remains the same, both in the fortifications of the city and in private houses. Foundations of *terre pisée* also occur (e.g., over SE 33 G-1, Pl. 9:b), just as in the preceding period. As noted above, it is remarkable that all foundations of F are quite independent of prior house-walls of G, a fact which may be explained either because of the fragility of construction in G or the thoroughness of its destruction—or both. However, the restoration presumably followed the fall of G almost immediately, since there is no noticeable change in ceramic culture. Above we have also described the modifications made in the city-wall in period F. Among other constructional remains which seem to belong to strata G-F is a curious subterranean passageway, entered by a shallow round excavation in the northern side of SE 14, running north-northwest under SE 13 into a small cave, the roof of which later fell in. Whether it was intended for a storage cave or for a tomb is doubtful, but the former alternative seems more likely. It is not quite certain, however, whether it belongs to G-F or to a very early phase of E. Most of the silos in SE 12, 13, and 22 belong to G-F, as established by their contents; these silos are oval or semicircular basins scooped out of the soft limestone rock like gigantic cup-marks. No trace of construction above ground was connected with them, so we do not know how they were finished or covered. Nothing like them is known after an early phase of E, and they are later replaced by roughly cylindrical silos lined with stone and with flat floors (from period C<sub>1</sub> on).

32. Artifacts, except in pottery, remained infrequent in periods G-F, a fact which demonstrates the poverty of the place at this time better than does the masonry. Flint knives and bone awls, both relatively abundant in H, seem to vanish from the scene. That their disappearance was due to the

increasing use of copper<sup>4</sup> is illustrated by the artifacts of material other than terra cotta. We now find copper pins or needles (broken),<sup>5</sup> a small copper chisel,<sup>6</sup> whetstones,<sup>7</sup> a limestone mould for copper weapons. The last is very interesting; it was found in G-F débris in SE 33, and measures 17.1 (broken) by 16.2 by 7.4 cm. On the two parallel sides and on the two edges preserved are seven matrices, whole and broken. One side (Pl. 43:a) has preserved matrices for two axe-heads, a small one and a large one ornamented with incised leaf-like markings (which would appear in relief on the axe), as well as part of a matrix for a knife (assuming that the edges were ground down later) or perhaps an adze. The other side (Pl. 43:c) exhibits a matrix for a long, narrow axe (like Pl. 40:2) and for another axe with leaf decoration. On each of the two edges preserved there is a matrix for an axe-head, one of them ornamented as before with the leaf-design, which is not paralleled elsewhere, so far as I know. Few beads were found in these strata, only one of precious stone (carnelian).<sup>8</sup> One object of terra cotta may be mentioned here, the cult-stand published TBM I, Pl. 44: 14 and described in § 42, where it was doubtfully attributed to stratum D. We can now say with confidence that the painted decoration, alternate red and blue bands on a white slip, is exclusively characteristic of the G-F period, to which it may be assigned on typological grounds.<sup>9</sup>

33. The pottery of strata G-F is no longer so unique as it was when TBM I and I A were published. In early 1935 Garstang found sherds typical of it in a stratigraphical sounding at Jericho, below characteristic M. B. II and above equally characteristic M. B. I (our H stratum).<sup>10</sup> The following year he found more sherds of the same type in the filling of the Hyksos embankment at Tell Kisân in the Plain of Acre. Other similar sherds come from Beth-shemesh, and examination of Macalister's plates shows that a fair number of his painted sherds from "First Semitic" are of our type.<sup>11</sup> By far the most

<sup>4</sup> For the period when the use of copper suddenly began to increase, displacing tools in flint and bone cf. BASOR 53, 15 f., on the basis of observations at Ader and Lejjîn in Moab; cf. § 18 above. Since then Glueck's explorations have increased the evidence for early copper-working in the 'Arabah; see *Annual XV*, 34.

<sup>5</sup> Among pieces with reasonably certain G-F context are S. N. 2286 (pin or needle from SE 25 sub E-5), 2382 (toggle-pin from SE 13 west of D-14), 2383 (perhaps a piece of thin tool, SE 13 sub D-14).

<sup>6</sup> S. N. 2402 (SE 13 F-2).

<sup>7</sup> S. N. 2317 (SE 23 F-5), 2368 (SE 13, silo 1 from G), etc.

<sup>8</sup> S. N. 2486 (SE 23 G-3).

<sup>9</sup> Cf. BASOR 58, 29 for the correct dating and for recent literature on these cult-stands.

<sup>10</sup> Cf. JPOS XV, 232.

<sup>11</sup> See G III, Pl. CXL: 4, 6 and CXLVI: 1-3 (described G II, 151), which are excellent

important recent evidence, however, has come from the excavations of the Palestine Department of Antiquities at Râs el-Ain on the 'Aujâ, probably ancient Aphek.<sup>12</sup> Here J. Ory directed the work in the winter of 1934-5 and again in 1936, recovering very valuable stratigraphic series of pottery from a lower and an upper phase of M. B. The lower phase corresponds closely to our G-F, while the upper one belongs with our stratum E. The excavator is certainly correct in dating the end of the early occupation, so far as can be determined from the soundings hitherto made, before the early sixteenth century. The very close resemblance of the pottery from the lower phase of M. B. to our G-F is illustrated by the identity of form, detail of execution, technique of combing and burnishing, etc., in carinated bowls, elongated one-handled jugs ("dipper flasks"), large shallow bowls, water-jars with the type of rim illustrated TBM I A, Pl. 4: 13, 21: 45, 22: 16-17, 20-22, flat-bottomed cooking pots with perforated rim over a plastic rope-band, bowls with rows of knobs below the rim, etc., etc. A scarab found in this context was dated by Rowe correctly to Dyn. XIII; it must come from either the late nineteenth or the early eighteenth century B. C.<sup>13</sup> Additional evidence is available from Byblus, where the jar-rim just mentioned appears in deposits from the late Twelfth Dynasty. It may be added that the date which I gave TBM I A, § 24 for the foundation jar of Byblus, which resembles our pottery so closely in its painted ornament, cannot be appreciably wrong.<sup>14</sup> A date in the nineteenth century is perhaps indicated by seal-cylinders of the "Cappadocian" type which, as Mr. A. Sachs has pointed out to me, reflect a glyptic stage just a shade later than the typical art of the "Cappadocian" tablets (cir. 1975-1925 B. C.). A date for G-F between 1900 and 1750 is definitely required by our evidence; it is gratifying to note that we have no reason to make any alteration in the chronology first proposed in TBM I, six years ago. In view of the identity of pottery types in G-F and at Râs el-Ain, we are also safe in differentiating sharply between this phase of M. B. II and the following ones. For convenience this phase may be designated as M. B. II A, while the two following ones may be called M. B. II B (our E stratum) and C (our D Stratum).

examples of the characteristic G-F painted ware illustrated TBM I A, Pl. 22: 1-6, 8-10, etc.

<sup>12</sup> QDAP V, 111-126; VI, 99-120. I do not believe that Alt's identification of the mound with biblical Aphek is affected by the new data. The Apquna (so!) of Tuthmosis III need not have been more than a fortress built on the site of the Middle-Bronze city, and the Aphek of I Samuel was probably only a fortified camp.

<sup>13</sup> QDAP VI, Pl. XXXII A: 5.

<sup>14</sup> Von Bissing's treatment in *Archiv für Orientforschung*, IV, 63 ff. (1927) was overlooked in my previous summary discussion of the date of the foundation jar. His date cir. 1500 B. C. is absolutely out of the question, however.

## CHAPTER IV

### STRATA E-D (MIDDLE BRONZE II B-C)

34. Strata E-D were adequately preserved over the entire completely excavated area in the southeast quadrant, almost exactly 2000 sq. m., not counting the fortifications and the East Gate. The areas dug in SE 21, 31, 41, 51 and the northern halves of SE, 22, 32, 42, and 52 were only cleared down to the foundations of stratum A, but accidental discoveries prove that there was a preserved stratum of E-D in part, at least, of these squares. In NW 32 and 33 together with the area under the West Tower (NW 43), no certain traces of M. B. stratification were found, though excavations reached bed-rock. In NW 22 and 13 sporadic stratification of period D occurred, but never thick nor adequately preserved. In most of NW 31, 21, 11 and 12 only the top stratum was excavated. The reason for the relatively far superior preservation of strata E and D in the southeast is again undoubtedly that the city walls were always more massive here, owing to the fact that this side was much more exposed to attack than the northern side, which was well protected by nature.

35. There was nowhere any difficulty in separating E-D strata from G-F levels below, and very seldom any doubt in differentiating D walls from C, since pottery everywhere confirmed or corrected the indications of level, masonry, and wall-plans. However, it was by no means easy to make a clean separation between E and D, mainly because of the continuous occupation of the site during the whole of periods E-D, which resulted in a succession of at least four building-phases that could be more or less clearly defined. Since the minute changes in pottery form and decoration, especially between E<sub>2</sub> and D, were frequently insufficient to allow confident attribution, ambiguous masonry context usually was attended by corresponding ambiguity in pottery. However, all important building-phases and nearly all interesting objects could be referred with certainty to their proper stratum. Needless to say, great care was exercised in analyzing the building-remains of these periods. The ash-deposits between E and D were too irregular to be of the same value that they were in earlier and later strata, though they proved occasionally to be decisive. Three loci were of special interest for the stratigraphic succession E<sub>1</sub>-E<sub>2</sub>: the deposit under loci SE 3D-1 and 4D-1-14D-1, just inside the G city-wall; a silo of E<sub>1</sub> under E<sub>2</sub> foundations in SE 3 sub-D-3; silo 73 (SE 23) of E<sub>1</sub> under a wall of E<sub>2</sub>. From these and other less striking deposits it became clear that the pottery of E<sub>1</sub> differed from that of E<sub>2</sub> in having a greater proportion of

well burnished pieces and of graceful carinated forms, along with minor differences in technique and form. This criterion then enabled us to recognize numerous deposits of E<sub>1</sub> elsewhere, where clear stratigraphic analysis was difficult. In the first-named group of loci the D rooms were originally partly north of the G-F wall of the city and partly on it; when excavated the floor-level of the D period had sunk some 20 cm., on the average, below the original level, which was flush with the preserved top of the G-F wall (see below, § 48, for a much greater subsidence in the neighborhood in D). Under the D floors was a mass of fallen *libn* (adobe) between foundations of stone at a level just one meter below the top of the G-F wall at this point. Still lower, at 1.50 m. below the top of the G-F wall was a solidly laid E floor of beaten earth, sloping up against the F reconstruction of the G city-wall. Under this floor was still another deposit of characteristic E sherds. During the excavation of these loci we assumed that we had three superimposed deposits of E before us, but later, in view of the decisive evidence for two phases of period D which we discovered in and around the palace of SE 22, we seriously weighed the alternative view, that the remains might represent D<sub>1</sub>. However, it seems safer to adhere to the first view, that all the remains underlying D in this area belong to E. Toward the end of the 1932 season we cleared the "palace" area (§§ 42 ff.) to bed-rock and discovered that the palace had passed through two phases of building on slightly differing plans and that the earlier one had succeeded a group of loci with typically E masonry and pottery. We shall see below that there is hardly any possibility that the D<sub>1</sub> palace of SE 22 is contemporary with the E<sub>2</sub> phase in SE 12-13, owing to radical changes in the plan employed for better houses. Moreover, it is hard to separate the sharp division between E and D<sub>1</sub> in SE 22 from the sharp division between E and D in SE 12-13, especially since the pottery evidence is favorable to our view. We have, accordingly, adequate evidence for distinguishing four successive phases of E and D, but not for introducing an additional E phase into our picture.

36. The material for reconstruction of the fortification system employed in periods E and D is in part both complex and elusive, and another campaign is required to elucidate it. However, some facts are certain. The first fortification of which clear indications were found, is a rampart of *terre pisée* forming, where dug into, a solid mass of hard clay over which we spent a great deal of time without finding the slightest hint anywhere that it contained any upright or fallen adobe. This mass is visible in the background of Pl. 6:a-b and 7:b, between the city-walls of A-B and C and the wall of G-F; it was exposed in 1932 for a distance of over thirty meters (SE 24-23-33), but traces of it were found elsewhere, both to the east and to the west. In SE 34 we uncovered a stretch of 10 m. of *terre pisée* foundation which was evidently the base of a

retaining wall for the inside edge of the rampart, toward the city; the fact that it was only a meter wide and that its continuation eastward is on nearly the same line as the ends of the transverse E walls of stone in the extreme southeast of SE 23 (which had originally ended at the rampart of *terre pisée*) makes this interpretation practically certain. In May, 1928, we ran a trench out from the face of the G-F city-wall in SE 33, just east of the tower, and struck a solid mass of *terre pisée* 1.25 m. below the top of the G-F wall, laid against it and coming to an end just inside the facing of the stone revetment of D-A, which was laid against the *terre pisée*. Below the latter were sherds of mixed G-F and E<sub>1</sub> type. (See TBM I, Pl. 13: 29-56, and § 44). Still farther to the northeast, some 50 m. from the west end of the retaining wall of *terre pisée*, in SE 43 outside of the G-F city-wall and south of silo 13, a trench sunk in May, 1928, struck a very hard deposit of brownish yellow clay, into which a pit, marked by a filling of gray ash-laden earth, had been dug in period D, as shown by a representative assortment of pure D sherds from the pit. The pottery found just below the one-meter retaining wall mentioned above is mixed pre-E, with no certain sherds of E; that found just above it in SE 24 sub-C<sub>1</sub> is mostly D, including base-ring sherds of D or early C date. The evidence from foundations and pottery which we accumulated in 1932 proved that the fortifications of *terre pisée* belonged to an early stage of E but not to its beginning, and that these fortifications were no longer in use in period D. This is in striking agreement with data from other parts of Palestine, notably from Lachish and Shechem. At Lachish Starkey has excavated tombs of characteristic M. B. II B type under the Hyksos revetment of limestone débris lined with plaster.<sup>1</sup> Since I have discussed the early Hyksos fortifications on various occasions elsewhere, there is no need of going into additional detail here.<sup>2</sup> The

<sup>1</sup> PEFQS, 1934, 168.

<sup>2</sup> See the discussion JPOS, 1935, 222 f., with the references in n. 95, to which should be added JPOS, 1922, 122 f., and JSOR X (1926), 244-54. Ricke's recent effort to prove that the Hyksos embankments in Egypt were really retaining walls for native Egyptian terrace-platforms (*Zeitschrift für Ägyptische Sprache*, 71, 1935, 107-11; 72, 79) is most unconvincing; he treats the observations and reports of such experienced excavators as Petrie and Engelbach cavalierly and fails to explain how the supposed platforms disappeared, leaving only their retaining walls. Wainwright, JEA, 1935, 257, criticizes me for alleged misappropriation of credit belonging to Petrie and especially to Phythian-Adams. In my initial paper I gave full credit to Petrie, Ronzevalle, and Phythian-Adams; subsequent cross-references and occasional explicit statements have ensured continuity. Moreover, Phythian-Adams' contribution to the subject consisted of calling Pumppelly's *Anau* to my attention after I had presented my observations to him and we had discussed them in detail. Cf. Petrie, *Ancient Egypt*, 1929, 1, and Garstang, AAA XIV, 37. In any case the "credit" in question is hardly

evidence from Tell Beit Mirsim suggests a date somewhere in the first half of the seventeenth century; a date at the end of the eighteenth is possible, but unlikely.

37. The fortifications of *terre pisée* were followed by a stone revetment, which may originally have been a lining for the clay rampart (as is actually the case in SE 33, whether intended or not) or may have replaced it without an organic connection (as is the case in SW 4). Southwest of the East Gate there can be no doubt that the glacis was originally a battered construction of stone on the top of which was set a rampart of adobe, just as at Jericho and Shechem in the late seventeenth or sixteenth century B. C.<sup>8</sup> The narrow stone retaining wall above the mass of *terre pisée* behind the glacis has been completely destroyed—if it ever existed. Elsewhere, as in SW 4, it is reasonably clear that the original glacis was set against the G-F wall. In SW 4 a four-meter trench was cut through the glacis, proving that the latter had been built with direct reference to the G-F city-wall. The latter was here, as usual, not built on the rock but its foundation lay some 40 cm. above bed-rock. At this point the débris outside the wall as cleared to its foundation and a thick layer of limestone débris (quarry waste) was tamped down. On this was a layer of black earth, well trampled, containing no sherds later than M. B. II. Above this was a sloping layer of quarry waste, followed by a sloping layer of earth, on which the stone glacis was laid. The G-F wall rises 5.30 m. above its foundation to the top of the preserved foundations of period A, but without excavation inside the city it is impossible to say whether any of this wall belongs to periods D or C, or whether all the part under the Iron-Age foundations belongs to G-F. In SE 43, 53, and 52 soundings made in 1926 showed that there was a large M. B.-II bastion, lined with a glacis for the protection of the East Gate. A full account of the bastion cannot be given until it has been completely cleared, as we hope to do in a future campaign. From the corner of the main glacis and the bastion southwest of point c (Pl. 54, middle) to the corresponding corner of the main glacis and the bastion northeast of point d (position only approximately correct, since the corner itself was broken away)

worth fighting over; it is true that my Hyksos dating for the Syro-Palestinian ramparts seems to be pretty well established, but my hypothesis that they were brought into Western Asia by Indo-Iranian migrations is not demonstrated. For the earth rampart under the brick city-wall of Ugarit see Schaeffer, *Jour. Sav.*, Feb., 1938.

<sup>8</sup> For Jericho see Watzinger, J 54 ff., and Garstang, PEFQS, 1930, 123 ff., 1931, 186 ff.; cf. also Vincent, RB, 1932, 208, and Watzinger, DP 53. For Shechem see Welter, AA, 1932, 289 ff., and Watzinger, loc. cit., p. 54. It will be noted that my chronology agrees with that of Watzinger in the main, though my dates are slightly lower in detail than his.

is a distance of 35 m. From the center of the E-D gateway along the two lines that make an angle of 30° with c-d, there is a distance of about 20 m. to the corresponding foundations of the bastion. For details of the junction of the main glacis with the bastion see Pl. 16: a-b; Pl. 16: c shows the bottom of the main glacis adjacent to the corner. The upper part of the bastion is obviously of different construction and date from the lower part, which is certainly to be attributed to M. B. II B-C, to judge from the sherds found on the rock at its base (but above the ground-level after its completion). Just outside of its northeastern corner with the city-wall we came in May, 1926, upon the entrance to a large cave (the East Cave, to be described in TBM III), access to which was originally obtained by a pit lined with a circular retaining wall facing inwards toward the cave entrance; the foundations of the bastion glacis ran over the remains of the circular retaining wall. Just inside and outside the mouth of the cave, as well as under the bastion, were found only early sherds, ranging from J to early M. B. II in age, proving again that the bastion belongs to late M. B. II. The lower courses of the bastion glacis, wherever exposed (Pl. 16: a-c), exhibit the same relatively massive polygonal construction as is found at the bottom of the main revetment almost anywhere along the line of over forty meters exposed in SE and SW during the campaigns of 1926 and 1928. This rough polygonal masonry differs radically both from characteristic work in the fortifications of the G-F period (comparatively small stones, hammer-dressed and laid in courses) and from that of the B-A period (much larger stones, hammer-dressed and laid in rough courses where feasible). Much more work is, however, required before we can clear up the remaining problems connected with the M. B. II fortifications, especially the question of the exact date of the stone revetment within the periods E<sub>2</sub> and D.<sup>4</sup>

38. Between the remains of the East Gateway in period G-F and the foundations of A-B only one phase of construction, consisting of one course of foundation-walls, is preserved (Pl. 8: a-b). At first there was some doubt as to whether this foundation belonged to M. B. II B-C or to L. B., but it is now certain that it belongs to the former, both because of the fact that the débris just above these foundations contained a great preponderance of E-D sherds<sup>4a</sup> and because of the fact that the bastion built in M. B. II B-C around the

<sup>4</sup> The *terminus a quo* is fixed by the sherds from the lowest meter of the deep cut in SE 13, which are described TBM I, § 44 and Pl. 13: 29-56. I have nothing to add to the discussion there, which proves that the M. B. revetment must be later than the first phase of E.

<sup>4a</sup> For typical D sherds from this phase of the East Gate see the drawings TBM I, Pl. 46: 3, 6, 9-11, 13, 24, all labelled "MSG" (Middle South Gate) and found April 16-17, 1926. Above them were found a few pieces of L. B. (e.g., TBM I, Pl. 46: 20 [April 14]).

outside of the East Gate is symmetrically disposed with reference to it, as pointed out in § 37. It is, however, quite possible to suppose that the L. B. people continued to use the M. B. II gateway, building again on the old E-D foundations. There is no evidence with regard to the precise date of the East Gate proper within the E-D period, though one may conjecture that it belongs to the same phase as the stone revetment. The plan of the cleared portions of this E-D gateway (Pl. 54) is most interesting, showing the closest similarity to contemporary plans elsewhere in Palestine and Syria, especially to M. B. II gateways in Qatna (el-Mishrifeh),<sup>5</sup> Shechem (Balāṭah),<sup>6</sup> and Tell el-Fār'ah.<sup>7</sup> Since only one pair of piers has been uncovered at Tell Beit Mirsim, though the parallels quoted all had originally three pairs of piers projecting from the two sides of the entrance passage, a detailed comparison is, of course, impossible. Comparing individual pairs of piers we note the following dimensions:

| Site                         | Width<br>of passage<br>between piers | Projection<br>of each pier<br>into passage | Total width<br>of passage | Breadth of<br>each pier |
|------------------------------|--------------------------------------|--|---------------------------|-------------------------|
| Qatna (two pairs) .....      | 4 m.                                 | 2 m.                                       | 8 m.                      | 4 m.                    |
| Shechem (all) .....          | 2.60                                 | 2.10                                       | 6.80                      | 2.10                    |
| Tell el-Fār'ah (one pair) .. | 3.50                                 | 1.50                                       | 6.50                      | 2.25                    |
| Tell Beit Mirsim " "         | 3.25                                 | 1.50                                       | 6.25                      | 1.50                    |

Since all of these gateways were built demonstrably or probably between 1700 and 1500, i. e.  $\pm$  1600 B. C., the similarity in plan and in dimensions is all the more conclusive. The South Gate of Beth-shemesh,<sup>8</sup> dating from about the sixteenth century B. C.,<sup>9</sup> shows nearly the same plan, but details are somewhat different. The East Gate of Shechem, from the latter part of L. B.,<sup>10</sup> shows a very interesting transitional phase between our type and the characteristic Early-Iron gateway of Megiddo (9th-8th century, but not Solomonic as first

<sup>5</sup> *Syria* VIII, Pl. 60. For a general discussion see Watzinger, DP 54 f., Galling, BRL 522 ff., from both of whom I differ on various details of chronology and sequence.

<sup>6</sup> Sellin, ZDPV 49, Pl. 33; Welter, *loc. cit.*

<sup>7</sup> TF II, 29, § 18, and Pl. LXXVII.

<sup>8</sup> APEF II, 23 ff., Pl. III.

<sup>9</sup> This gate appears to be later than our G-F period, since Mackenzie (APEF II, 22) found fragments of a store-jar of the type represented by the "High Place Grotto Sepulchre" (Pl. XVII) inside the masonry of a bastion and L. B. sheras on the floor of a guard-room. Dr. G. Ernest Wright, who has worked through the Beth-shemesh material as Professor Grant's research assistant, kindly informs me that the city-wall adjacent to it must be dated after Tomb 13 (which he considers coeval with our phase E<sub>3</sub>). A date in the 16th century is perhaps most likely. Wright does not favor dating it after 1500 B. C.

<sup>10</sup> Welter, *loc. cit.*

supposed)<sup>11</sup> and of Tell en-Naṣbeh (10th-9th century),<sup>12</sup> both of which have two pairs of long projecting piers, between which is a large *Breitraum*, as in the corresponding gateway of Shechem. The South Gate of Carchemish, with three pairs of long piers instead of two and two *Breiträume* instead of one, probably dates also from Iron I (11th-9th century B. C.).<sup>13</sup>

39. The best preserved example of an E house of better type is situated in SE 3 and 13 (loci SE 3 sub-D-3 and SE 13 sub-D-4-5-6-11); see the plan, Pl. 50, and the photographs, Pl. 10: a-b. Just north of it in SE 12 and 13 is a second, slightly inferior house of the same basic type but differing considerably in details (Pl. 11: a). One house is rectangular, the other is square; each has a rectangular hall with an extension at right angles to it; each has two rooms opening into it (but see § 47 on the north house). The ceiling of the hall is supported by wooden posts set on large stones with flat tops, securely set in holes dug in the *pisé* floor, with small stones wedged around them in order to hold them firmly in place. This principle is quite different from that of the stone sockets in which the supporting posts of period G were set, but is essentially the same as in the much earlier hall of the Ai palace. Otherwise there is very little in common with the latter, so we may safely regard the resemblance in the post-supports as accidental. Unhappily the southeastern walls of the south house were not preserved, so we do not know where the entrance from the outside was situated; presumably it was in the long side near the southeastern corner, which would open into the alley which we dubbed "Lizard Lane" (for which see the plan of stratum D, Pl. 51). The number of post-supports seems to have been variable. In the south house there were three, distributed quite evenly along the main axis of the hall; two smaller stone bases (Pl. 10: b), flanking the easternmost large one, took care of the shorter axis. Since the south wall of SE 13 D-4 was founded at a level slightly above the tops of these bases, it is unlikely that there were any addi-

<sup>11</sup> OIC No. 9, 24 ff.; for the date see now AJSL LII, 267.

<sup>12</sup> Baddà, *A Manual of Excavation in the Near East*, p. 17.

<sup>13</sup> *Carchemish*, II, Pl. 4. The other gates of Carchemish also belong to the Middle-Late Bronze and Iron I so far as types go. The Outer West Gate, though badly ruined, resembles the South Gate; the West Gate is like a twofold gate of the type of Megiddo and Tell en-Naṣbeh; the Water Gate, only one side of which was preserved, exhibits three pairs of piers in a long passage through a tower and dates from "Middle Hittite" or roughly M. B. II-L. B. (Woolley, p. 104). Since the approximate measurements of the Water Gate corresponding to those in the table above are 3.75—1.50—1.75—7.00—2.00—2.10, it is clear that it must be roughly contemporary with the gates at Tell el-Fār'ah and Shechem, whose measurements coincide most closely with those just given. A date between 1700 and 1500 is thus indicated. The reliefs from the Water Gate are naturally much later than the plan of the gate itself.

tional ones along the shorter axis. The north house exhibits only two relatively small bases, placed on the main axis of the hall and nearly on lines which represent the prolongations of the interior west—east walls of the rooms SE 12 sub-D-5 and SE 13 sub-D-12—a disposition which at least shows a nice sense of economy of support. That the flat-topped stone post-bases were fairly characteristic of E is shown by a typical one north of SE 13 sub-D-14, near the eastern edge of SE 13 (Pl. 13: a, center), as well as by a smaller one preserved in SE 33 E-2. My original impression that we have to do with a kind of megaron is misleading, at least in the form in which I stated it,<sup>14</sup> and the connection with house-plans of the same age elsewhere remains quite obscure.<sup>15</sup> The difference between these E houses and the house of G is so great that it is difficult to make any direct connection, though there may be a distant relationship. It is more likely that our type was independently derived from a northern hearth-house parallel to the megaron but not identical with it. Details of the construction of the E houses in SE 12-13 will be left for the treatment of the D houses built later on their foundations, owing to occasional uncertainty whether we are dealing with E or with D constructions; see § 46.

40. Elsewhere in stratum E we have a number of constructions that merit closer attention. Under the D palace in SE 22 we have parts of two adjacent E houses with a common (party) wall. The E house SE 22 E-6-3-7 seems to have had nearly the same size and roughly square form as the house in SE 12-13, though a complication seems to be introduced by the two doors in the southeast wall of room 3 (leading into room 4). It is possible, therefore, that loci 6-3-7 do not form one house but parts of two. The house SE 23 sub-D-9 seems to have had the same form and dimensions as the house in SE 13 (leaving the western room, SE 3 D-3, out of consideration); its outer walls seem to be formed by the foundations at 489.87 (east), 489.82 (north), 489.79 and 489.92 (on the west where we have fragments from several reconstructions of period E, possibly necessitated by the proximity of the drainage channel, whose tendency to overflow is suggested by the widening of its bed precisely at this point). In SE 32 there are remains of more massive foundations, which may belong to D<sub>1</sub> but seem to be attributable to period E, though it is impossible to be sure, since this group of loci was near the edge of the excavation in this area.

41. The most interesting construction of period E, after the houses described in § 39, is the drainage channel in SE 32, 23, and 24, where we traced

<sup>14</sup> See BASOR 47, 11; AJA XXXVI (1932), 559 f. The unhappy use of the term "stylobate" for post-support was due to the fact that the latter was buried under the floor and not exposed, but this extension of the term is unwarranted.

<sup>15</sup> Cf. JPOS XV, 229 f. and Watzinger, DP 58.

it for some 45 meters. In construction it is substantially the same as the drainage channel of period D in SE 12 (Pl. 12: a-b). A line of flat stones was carefully laid end to end in such a way that the flow of water over them would be steady but not too rapid—hence the right-angle turns and windings, which remind one of the course of the Siloam tunnel, where they serve the same purpose. On this line of flat stones were laid two parallel rows of hammer-dressed stones of rectangular form on which was placed a second line of flat covering stones, after the floor and sides of the channel had been lined with gypsum plaster to keep the water from escaping too rapidly into the earth along the line of the channel. While the D date of the channel in SE 12 appears to be certain, we were long in doubt about the exact age of the longer channel southeast of it. In 1930, when we discovered it, we attributed it quite naturally to the same period as the D palace, but the excavation of its continuation in 1932 proved clearly that it belongs to E. The evidence is briefly this. Where we first strike the channel of the drain in SE 32 sub-D-5, the level of its bed is 491.45 and of its covering about 491.80, with which must be compared the level of the foundations of period D to the northeast and southwest, about 492.00, while the floor-levels of the adjacent loci in D ( $D_2?$ ) are, from northeast to southwest (going down the slope of the hill): 492.19, 492.18, 492.12. Our impression that the drain is unnecessarily deep for a D construction becomes much stronger when we compare the E foundations nearest its first excavated point: 491.75 and 491.79, i.e., just at the level of the covering of the drain. Moreover, south of the D palace in SE 22 the covering slabs nearest the two corners have the levels 491.68 and 491.08 (the original level of the drain has almost certainly sunk a little here), corresponding to the nearest E foundations to the north (491.31, 491.06, 490.69 from NE to SW) and the nearest E floor-levels (491.21-20) much better than to the D palace. Just beyond to the southwest the drain passes under a flight of steps which undoubtedly belongs to D. The lowest step, north of the channel, is 0.20 m. higher than its top and the highest one preserved is about 0.60 m. higher. After an abrupt turn to the southeast, the drain runs under the foundations of two successive transverse walls of stratum D and then apparently through the foundations of the south wall of SE 23 sub-D-4. If we could be sure that the drain runs through a constructional orifice in the wall, our case would be proved by this fact alone, but the wall is considerably damaged at this point. Beyond it runs about 1.70 m. under the floor of SE 24 sub-C-1' (floor-level 491.03 and top of drain 489.34), the D date of which is absolutely certain. The fact that the inner retaining wall of *terre pisée* in SE 24 makes a jog just southwest of the drain suggests that the latter was constructed in the period of the *pisé* city-wall.

42. The most important building hitherto found in the site is the patrician house (called "palace" for convenience) of stratum D, located mostly in SE 22. For the first time at our site we find a well-constructed house of distinctly superior type and for the first time we find a building of Andrae's *Hofhaus* class; see the plans, Pl. 51, 55, and the photographs, Pl. 13-15. After we had cleared the southeastern two-thirds of the court, SE 22 D-2, and the storeroom, SE 22 D-1, in 1928, we excavated the rest of the building in 1930. In 1932 we cleared the rooms and the court to bed-rock without, however, disturbing the underlying E walls or the fragments of still earlier construction. In the course of clearing the débris beneath the floors of the latest D occupation new foundations of D appeared in several places, making an almost complete reconstruction of the ground-plan of the palace in D<sub>1</sub> possible. These older foundations are marked dot-dash-dot in Pl. 51, but I have not made a separate sketch-plan of the earlier building, since its plan is in general very close to that of the first reconstruction in D<sub>2</sub>. There are actually traces of four phases in the history of the palace, as we shall see, but only two are worth distinguishing for chronological purposes. The floor-level of phase D<sub>2</sub> was either the same as that of D<sub>1</sub>, or was lowered slightly by scraping the old floors, as in the G<sub>2</sub> house (see above, § 29); in favor of this latter alternative is the high door-sill between loci 2 and 1. There is no indication of any change in the line of foundations in the court (locus 2) and in rooms 8 and 5. In rooms 4 and 1 a considerable change was made: the area of room 4 was increased by reducing the width of the wall between it and 1 and the room itself was squared off at the corners; a vertical offset and a small partition on the southwestern side made room 1 more convenient as a store-room (Pl. 15: a). Room 7 was altered considerably, having its floor raised (how much is not known) to a point 0.60 m. above the floor of room 6, and being provided with two neat benches on two sides, about 32 cm. above the floor (Pl. 15: b; 14: a, b). Both floor and benches were carefully covered with a strong layer of plaster and two plastered cup-marks 10-15 cm. deep were made in the northeastern bench, presumably as vase-supports. Access to the room was gained from room 6 by two plastered steps. Since nothing worth mentioning was found in the room, there is some doubt as to its purpose. Since it could hardly have served as a kitchen or bath-room, and since it is the only room in the ground floor provided with a plaster floor, one may suggest that it may have served as a sort of buttery where food was stored and prepared for being served.<sup>15\*</sup> Locus 6 passed through a somewhat complex history

<sup>15\*</sup> The absence of a drain or privy installation, to say nothing of a suitable basin, seems to be fatal to the otherwise natural interpretation of our locus as a bath-room

(Pl. 14: b, 15: b). The original foundations of D<sub>1</sub> are curiously asymmetrical, the southwest exterior wall having the same thickness as the exterior walls almost everywhere else, while the southeast exterior wall is 1.30–1.40 m. thick. Since there happens to be a marked depression in the terrain just southwest of the palace, one may infer that the original wall of D<sub>1</sub> collapsed at this point and was replaced later in the phase by the present foundations. This would also explain the curious broken appearance of the southern end of the southwest foundations of D<sub>1</sub>. In D<sub>2</sub> the original plan was restored, but room 6 was too small, so its exterior walls were razed, leaving jagged ends which are marked with irregular dots in the plan, Pl. 51. These ends were, of course, well plastered with *tin*. To the open area thus formed were added loci 9 and 10, immediately adjacent, and SE 23 D-6. Owing to the partial demolition of a party wall, it is not certain whether SE 12 D-7 opened on a little rear court thus formed, or not.

43. That SE 22 D-2 was really an open court has been disputed by Watzinger, who thinks that it "wird eher als Hauptwohn- und Empfangsraum denn als Hof aufzufassen sein."<sup>16</sup> His interpretation can hardly be correct, for the following reasons.<sup>17</sup> First, the dimensions of the locus, 11.70 by 6.20 m. inside, are quite abnormal for a Palestinian roofed structure without posts. Since we dug this locus very slowly and carefully, there can be no question that there were no posts. Secondly, we find a general shift from halls to courts between E and D; see § 46 below, so that the court is to be expected. Third, we found a shallow basin lined with coarse gypsum plaster, nearly two meters in diameter, in the locus; such a basin would be quite in place outside but not inside a room.<sup>18</sup> Fourth—and perhaps most convincing—is the remarkable resemblance which our D "palace" bears to a patrician house at Chagar Bazar in northern Mesopotamia, which Mallowan cleared in the spring of 1935.<sup>19</sup> Since the dimensions of the open court at Chagar Bazar like the small room with two steps leading to it, and with floor also nicely plastered, in the contemporary Palace I at Tell el-Ajjul (TA II, Pl. XLIV: a, XLV, MK; cf. also TA III, Pl. XLVI).

<sup>16</sup> DP 57 f.

<sup>17</sup> See already JPOS XVI, 53, where the reasons are somewhat differently formulated.

<sup>18</sup> For my theory that the court and rooms 8 and 5 were used partly for horses see JPOS XVI, 53 and APB 86. Since it cannot be demonstrated, I omit any discussion of it here, except to say that this theory would explain the thickness of the exterior walls of the court, the presence of so large a shallow basin in the court, and the width of the opening from room 8 to room 5. In the light of our present knowledge of the care devoted to horses in Asia Minor, Syria, and Palestine between 1500 and 800 B. C., there is nothing remarkable in such superior housing.

<sup>19</sup> See *Iraq*, III, especially Fig. 3 and p. 14. Mallowan was inclined to think that the

are only 7.30 by 4.80 m. it is evident that our view of the Tell Beit Mirsim locus is *a fortiori* more probable. As in our house all the rooms are located on one side of the court, with which they communicate through two doors. The door to the left leads into a store-room, as with us. The other door leads into a room (not a courtyard!) corresponding to our No. 8, which in turn opens into other rooms and to the outside. While the extent of the house is only just half that of ours, the plan is thus strikingly similar. Moreover the date corresponds quite closely, since the Mesopotamian house was probably built not far from 1900 B. C.<sup>20</sup> and the movement of culture in the next few centuries was rather southward than the reverse. Little was found in the court. In the west-central part of the court were found numerous remains of charred beams and scantlings, which had fallen from the roof of the second story when it collapsed; the smaller pieces were semi-circular in section, with a typical measurement of 2.75 x 2 cm. A larger one had a diameter of 8 cm. Most of the few objects in the court had also fallen from the second story, as illustrated by twenty ivory squares belonging to a game-board (whose pieces were found in the adjacent room 8; see § 55) and by a complete alabastron.

**44.** Rooms 1 and 4 were unquestionably designed and used as store-rooms, a fact illustrated by the quantities of store-jars, mostly in fragments, which we found in them. Pl. 15: a shows what the appearance of room 1 was when it had been partly cleared. At least fourteen jars were clearly distinguishable from their position when found; six of these, reconstructed by Dr. Schmidt, are illustrated in drawing TBM I, Pl. 41: 10, 12-16. The two rooms together must have contained between 20 and 30 jars of wine and oil. Otherwise little was found in these rooms, and what was found had certainly or probably fallen from upstairs when the palace was burned. In room 1 there was a diorite mace-head (No. 744) and a copper knife (No. 775); in room 4 a copper brooch (No. 1587) and the remains of an inlaid box (§ 56) were found. Wedged in the débris which had fallen into the left niche in the rear wall of room 1 was the broken limestone stela of the serpent goddess (see § 49). Rooms 8 and 5 were evidently quite empty at the time of the destruction (see above, n. 18, on their possible use as stables for horses); among the objects picked from the floor, where they had fallen from upstairs, were a haematite weight (No. 1547 in room 5) and a pottery chalice (No. 1622,

court might have rooms on the unexcavated sides, though no doorways are indicated in the plan. However, further excavation in this area the following year (*Iraq*, IV, 112 ff.), though it apparently did not continue the clearance of the complex in question, yet showed pretty clearly that the postulated type is lacking in the part so far dug.

<sup>20</sup> For the chronology see *Iraq*, IV, 154 and my remarks, *AJA*, 1937, 499 f., and *BASOR* 69, 20 f.

which could not be completely restored, though of very distinctive pattern, and so had evidently fallen from upstairs), together with a teetotum and ten gaming pieces (see § 55), an alabastron (No. 1581), a copper arrow-head (No. 1580), a scarab of exceptional beauty (No. 1577) and ten black ivory whorls (§ 64), all from room 8. In room 8 was also found a flat-bottomed cooking pot (No. 1606) which had probably fallen from upstairs, since it could not be completely restored. It must be remembered that we sifted all the earth from the palace rooms, so no sherds escaped us. Nothing was found in the "buttery" (room 7) except a pottery lamp (No. 1611), but even this could not be entirely restored and had thus apparently fallen from upstairs. The purpose of this rather enigmatic installation has been briefly discussed in § 42.

45. Various details of construction in the D<sub>2</sub> palace remain to be considered. The original terrain being somewhat sloping at this point, there is a considerable difference between the depth of foundations at the northwest end, which averages about 0.35 m. under the floor level of room 8, and that at the southeast end, which is about 0.90 m. below the floor of room 1 and the latest occupation level of the courtyard. At the southeastern end the average height of the stone socle above the foundation was about a meter and a half. The adobe superstructure was built of exceptionally large bricks, variously estimated at first (1928) to be 0.50 or 0.70 m. square. After our 1930 campaign we reached the tentative conclusion that the brick-work was constructed of whole bricks of the latter size and of half-bricks 70 by 35 cm. The stone socle was covered with a thick facing of *tin* and the bricks were laid in *tin* mortar, a fact which explains why it was so hard to fix their exact dimensions. After completion the inside and outside faces of the wall were plastered with gypsum plaster. In spite of the fact that the foundations of the house were deeper toward the south and southeast, the wall seems to have settled more here, as illustrated by the fact that the walls of the upper story fell toward the south and southeast, so that the débris from the conflagration was concentrated in loci 2, 1, and 4, while wooden scantlings from the roof and a game-board from the room above No. 8 fell into the courtyard. After the palace had been destroyed and the site had been abandoned for some time, squatters sank pits into the ground, three being found in rooms 4, 5, and 7. That these pits were not due to the inhabitants of city C is quite certain, since the contents of the pits, by which we identified them, only reach to the top of stratum D and do not project at all into C, but stop below its foundations. The grayish white contents of the pits looked superficially like *tibn* (chopped straw), but after it had been examined at the Palestine Department of Agriculture, Mr. Sawer kindly wrote

(Sept. 5th, 1930) : "The sample . . . has been chemically examined and found to consist of inorganic matter which does not dissolve in acid and must therefore be an insoluble silicate. It is of course possible that an earlier organic structure has been entirely replaced by an infiltration of silicate. . . ." Since the average diameter of the pits was well over a meter and a half, the *tibn* hypothesis thus remains the most plausible.

46. In § 39 we have described the plan of the two principal houses of E date in SE 12 and 13. Both houses retained their outer walls with little alteration in period D. The most important change was the substitution of small open court-yards for the roofed halls which were characteristic of period E. This change is absolutely certain, because of the respective floor-levels, which in D lay over the top of the stone post-supports. In the southern house (Pl. 10: a-b) the top of the bases now lies at level 489.565-489.625 whereas the D door-sill between SE 13 D-6 and SE 3 D-3 is at 490.59, while the D floor of room 4 is at 490.36. An earlier phase, possibly D<sub>1</sub>, is reflected by the line of stones west of locus 5, the foundation of which is higher than the top of the stone plinths, and the top of which (as far as preserved) is about 18 cm. below the latest floor-level of D; it evidently marks a discarded partition wall between loci 6 and 5. As stated above in § 39 there were only two rooms (sub-3 and sub-11) in the southern house, besides the hall, sub-6-5, and both continued in use in period D, though with new door-sills, raised considerably above the E level. The doorways in question, between the two rooms and locus 6-5, were blocked with *pisé* as the sills were raised; the sill between loci 3 and 6 is still preserved, but that between loci 11 and 6 was presumably just above the preserved top of the wall. The stone foundations between loci sub-11 and sub-4 doubtless bore a superstructure in adobe; the adobe wall, which presumably collapsed, was replaced in the first phase of D by a new adobe wall, the axis of which coincides with the western edge of the stone wall of E. It is important to note that the foundation of the new adobe wall is at the same level as the foundation of the stone partition wall between loci 6 and 5, also from an early phase of D. The stone bin between sub-6 and sub-4 dates from the same period as the E walls and post-supports. In § 35 we have referred to the silo of E<sub>1</sub> date under room sub-3; the silos under the floor of E<sub>2</sub> in room sub-6 and under the adjacent E wall to the north clearly belong to the same date, though their pottery content was scanty and ambiguous. The wall just mentioned still carried E plaster with marks of the conflagration which filled sub-6-5 with ashes and calcined adobe and stone between the E and the D floor-levels.<sup>21</sup> The partition-wall between

<sup>21</sup> One complete brick from this débris of E measured 37 by 26 by 12 cm.; the frag-

room 5 and 4 belongs to the latest phase of D, as is clear from the fact that its foundation is just below the floor level in the latest D phase and some 13 cm. above the top of the early-D partition wall between 6 and 5. Whether it was preceded by a partition wall of early-D or even of E date is not certain, since no traces of either were found. In the E hall (loci sub-6-5-4) numerous objects were found, including five alabastra (Nos. 1849-1851, 1964, 1989), and numerous whole or broken vases, including the flat-bottomed piriform jug No. 1914, of relatively late type. In this connection it is interesting to note that the beautiful piriform (Tell el-Yahūdīyeh) jug No. 2631 was discovered in the E<sub>1</sub> silo under locus 3 (SE 3 sub-D-3). Against the relative richness of the E house must be set the poverty of the D house, where nothing but sherds was found; cf. the remarks at the end of the next section.

47. The northern house of E in SE 12 was also replaced in period D by one with a courtyard instead of a hall (Pl. 11: a-b). The E house had at least two rooms (SE 13 sub-D-12 and SE 12 sub-D-5), but it is possible that SE 13 sub-D-2 and SE 12 sub-D-1 also belonged to it; the masonry remains were in such a deplorably confused state that it was quite impossible to be sure. Since there is a rapid fall in bed-rock level from north to south, the floor-levels were not the same in the different loci of stratum E and it was only at the southern end of the house that the layer between the E and the D floor-levels was more than 20 cm. thick. Against the base of the north wall of SE 12 sub-D-2, just under the D floor, we found a store-jar of E type, the upper two-thirds of which had been neatly shaved off when the new floor was laid. In SE sub-D-1 is a flight of stone steps (Pl. 11: b) leading up into the street, certainly dating from period E, though possibly going back to its first phase, to judge only by the level of the first step (490.07). To period D belongs the little locus SE 13 D-2, with a well-made floor of gypsum plaster like that in room 7 of the palace, described in § 42; its purpose is quite obscure. The northern house of period E was just as rich as the southern one; in it were found over a dozen vases of fine ware, including four burnished vases with trumpet-foot (Nos. 1956, 1962-3, 2015), together with two faience lentoid flasks (No. 1990, 2164),<sup>22</sup> two alabaster dagger-pommels (Nos. 1873-4), a quantity of bone inlay (Nos. 1826, 1831-2, 1885, 1978, 2059-60, some fifteen pieces including fragments). Again there was virtually nothing except drab sherds in the superimposed D house.

ments measured seemed to average somewhat differently: x by 24 by 14 cm. It would seem that the dimensions were intended to be in the ratio 3: 2: 1.

<sup>22</sup> No. 2164 belongs to stratum E, not to D as erroneously assumed in my initial publication, on the basis of an uncensored entry in the expedition record-book.

48. Since the D city is much better preserved than the E one in the southeast quadrant, and is, in fact, the best preserved section of a city from the first half of the sixteenth century B. C. yet excavated in Palestine, we shall devote some space to a brief description of various points not yet touched. As stated above, the courtyard type of construction (*Hofhaus*) is introduced in period D, replacing the covered hall of period E. Another characteristic change from E to D is the marked heterogeneity of house-plans in D when compared with E. In D we have, side by side, the well-built palaces of SE 22 and SE 23 (only a corner of which was excavated)<sup>28</sup> and the flimsy plebeian houses of the neighborhood, most of whose walls are built of only one row of stone instead of the usual double row. It is true that such one-row walls are by no means rare in E, but they become much more frequent in D; houses built in this way cannot have had more than one story (i. e., there were no upstairs rooms at all in most of them). The houses described in §§ 46-7 cannot have had more than one full story in period D (whatever the situation may have been in E) though they probably had small covered structures on their roofs; the poverty of their contents indicates again that they were occupied by plebeians, though possibly by more favored ones. There seem to have been two houses in the area between the palace and the two western houses already described, north of the narrow street which forms the eastern continuation of "Lizard Lane." One may be tentatively considered as including in D<sub>2</sub> the following loci: 12 D-6-7, 13 D-13, 23 D-1. To the other may be attributed loci 13 D-20-19-14, 23 D-3, and possibly 23 D-2, of which loci 20, 19, and 3 were presumably open to the sky. South of the street it is impossible to make more than guesses as to the distribution and delimitation of plebeian houses. That the inventory of these houses was relatively rich (especially in coarse vases, scarabs, copper objects, etc.) indicates only a destruction which was too rapid to give adequate time for looting, just as in the case of the palace in SE 22. For details we refer to the table of provenience. The loci in the extreme southwest of the excavated area are among the most interesting ones south of the street. Here the adobe superstructure was exceptionally well preserved, and exhibits a curious phenomenon of sagging (Pl. 19: a), owing to the fact that the southern end of the wall west of SE 3 D-1 rested originally on the G-F city wall, while the north end lies under the massive northeast corner of SE 4 A-3, 2.50 m. above it. Below the middle of this wall lie more than four meters of accumulated earth and

<sup>28</sup> Note that the second palace had an exterior wall of the same thickness as the first. For a time I was inclined to refer the stone foundations under the adobe wall, with nearly the same plan and location, to D<sub>1</sub>, but they clearly belong with an adjacent wall of undoubtedly E date to the west.

débris of occupation, with no masonry remains except some foundations of E. It is not surprising, therefore, that the adobe wall of D was broken in two at the edge of the early city-wall, only the part to the north, which subsided, escaping removal by the builders of the C-B periods, and that the floor of the adjacent rooms of D to the east of the wall now stands at 491.26, some 50 cm. below its original level. Moreover, the foundations of the northern end of the adobe wall in question have subsided still further, owing to the great weight on them and the absence of any solid masonry below to support it; they are now about 45 cm. lower than they are in 4 (or 14) D-1 and nearly a meter below their original level. We have stressed this change of level, owing to its significance as an illustration of the possibilities in similar cases. It should be added that the east-west adobe wall between SE 3 D-1 and 4 D-1 has sagged about  $30^{\circ}$  to the north in accordance with the subsidence of ground in that direction. This group of loci, which had been destroyed by the usual great conflagration at the end of period D, lay only about half a meter under the foundations of A<sub>1</sub>, the C and B strata almost disappearing at this point. There remains to be mentioned the drainage channel of period D, which we traced for about 20 m. in SE 12; it first runs southwesterly, then westerly, and presumably turns again to the southwest in SE 2 (Pl. 12: a-b). Our most weighty reason for attributing it to period D is the level of its bed, which is over 50 cm. higher than the foundation of the E wall to the south. However, since the terrain falls considerably at this point, this argument may not be decisive, and a date in E remains possible. In type it resembles the E drain so closely that the description of the latter in § 41 applies to it just as well.

49. The outstanding discovery of stratum D was undoubtedly that of the limestone stela representing the serpent-goddess (Pl. 21: a, 22).<sup>24</sup> When discovered (§ 44) it was lying upside down in the débris of the final conflagration and the upper third was missing, presumably having been calcined and reduced to powder. The stela was covered with such a thick layer of powdered limestone that when it was first discovered no outlines could be distinguished on its face. This accounts for the partial effacement of outlines. The stela is between 29 and 29.5 cm. wide and its preserved height is 41.5 cm. The back is rounded, its thickness being 13.5 cm. on the lower end of its axis and cir. 8.5 cm. at its lower edge, while it is 11 cm. thick

<sup>24</sup> See my previous reports, BASOR 31, 6; ZAW, 1929, 6 f.; APB 87 ff., and Vincent, RB, 1929, 105 f. (with an excellent photograph). I wish here again to thank Dr. Aage Schmidt for rescuing the stela, which would otherwise probably have been discarded after a cursory inspection, since the surface was thickly covered with lime dust when found and nothing was visible until it had been brushed.

at the upper end of its axis and 6.5 cm. at its upper edge. In view of its form and of the fact that plaster was found adhering to its flat base, there can be no doubt that it was set into a niche in the wall of the upstairs room from which it fell. In the autumn of 1934 Dr. H. Steckeweh discovered the lower part of a small limestone plaque in the latest M. B. stratum at Shechem (Balāṭah); the plaque contains a representation of exactly the same kind, as far as it is preserved, as ours, together with an inscription in the early alphabetic script of Canaan.<sup>25</sup> In my opinion there can be no doubt that both are representations of the serpent-goddess, though Galling is inclined to regard it now as a stylized way of representing the folds of the garment.<sup>26</sup> So much has been written elsewhere on the serpent-cult in Palestine that it is not necessary to add anything here.<sup>27</sup> It is particularly interesting to note the striking resemblance between the way in which the serpent coils around the clothed deity at Tell Beit Mirsim and about the same time in central Syria. In this connection it should be observed that the restored drawing on Pl. 22 is only intended to illustrate the original size of the stela and the relation of the part preserved to the whole deity, not to reconstruct the original garb or head-dress.<sup>28</sup>

50. Only three broken Astarte plaques were found in strata E-D: Nos. 2017 (E—Pl. 27: 7), 1673, 2125 (D—Pl. 27: 8-9). Since I shall describe them in the forthcoming publication in honor of M. Dussaud,<sup>29</sup> I may refer to that paper for details. All three are probably of the Qadesh type in which the nude goddess is represented *en face*, with spirally curled ringlets hanging down on her shoulders, with upraised arms, usually holding two lilies (or

<sup>25</sup> Cf. Alt, PJB, 1935, 6; Yeivin, PEFQS, 1937, 184 below; Galling, BRL 459 a.

<sup>26</sup> Galling's view that the snake may be only a misunderstanding of the fringe of the deity's garment is improbable, being contradicted by the nearly contemporary bronze statuette from Qatna or the vicinity, published by Ronzevalle (*Mélanges de la Faculté Orientale de St. Joseph*, VII, 132 f. and Pl. V). Of course it is not impossible that an iconographic adaptation of the winding serpent to the winding fringe was made at some time. [The plaque from Shechem is now published by Böhl, ZDPV, 1938, 1 ff. and Pl. I.]

<sup>27</sup> Cf. the discussions referred to in n. 24 and the references given there. I was partly wrong in comparing the serpent represented on the thigh of a nude Aphrodite from the Hellenistic period, discovered by Miss Garrod in the Wād el-Maghārah south of Carmel; cf. my remarks APB 88 and contrast Iliffe, QDAP III, 109. Iliffe is, of course, right in identifying the snake with the snake ornament worn on the thigh by hetaerae in ancient Greece. However, one may well ask whether the latter did not borrow their ornament from the goddess, to whom it belonged by right—originally as an actual serpent crawling up her thigh (cf. a possible parallel in n. 26).

<sup>28</sup> The feather head-dress is discussed below, § 78.

<sup>29</sup> "Astarte Plaques and Figurines from Tell Beit Mirsim" (*Mélanges syriens offerts à M. René Dussaud*).

lotus stems), as in the specimens from period C (§ 78). There are good parallels for both the E and the two D positions of the feet elsewhere in Palestine in the period immediately following. In my more detailed treatment I shall demonstrate the origin of the type from the characteristic Babylonian one of the First Dynasty of Babylon, cir. 2000-1700 B.C. It may be added that our E specimen is perhaps the oldest datable piece yet found in Palestine, where such plaques are exceedingly rare before the fifteenth century B.C.<sup>20</sup>

51. A fair number of seals and sealings were found in undoubtedly M. B.-II context. Among them scarabs were, as usual, in the overwhelming majority. Our only ones of certain E provenience come from the 1932 campaign and are illustrated on Pl. 29: 1-5, 7, 9; all are of steatite except No. 4, which is of blue frit, very friable. Most of these scarabs are certainly Palestinian in make and there is a surprising crudity about the execution of Nos. 1, 2, 7, and 9 which suggests lack of craft tradition. Note particularly the lack of balance in Nos. 2 and 7. The latter represents an extraordinarily crude lion roaring over a prostrate man.<sup>21</sup> Above the lion is a cartouche surmounted by the Horus falcon and with two uraei at the bottom; the rest of the face is filled with meaningless hieroglyphs. The finest piece is the silver-mounted scarab No. 3, which was fixed originally in a ring; it represents a moderately well drawn griffin with meaningless hieroglyphs.<sup>22</sup> Interesting is also the bearded sphinx in No. 4, which is rather well, though summarily, done. The only historically remarkable one is No. 2, which bears a bad copy of an Hyksos royal legend, *z<sup>2</sup>-R<sup>2</sup> Ykb . . d<sup>2</sup>-nh*, "Son of Rē, Ykb- (?), given life." This is not the place to treat the vexed question of whether the name sometimes read *Ykb-mw* is a corruption of the longer *Yqb-hr*, etc.,<sup>23</sup>

<sup>20</sup> Cf. May, *Material Remains of the Megiddo Cult*, 1935, pp. 28 ff.

<sup>21</sup> Scarabs with a single lion filling the scene are common in M. B. II; cf., for example, one published by Sellers from a stamped jar-handle (*The Citadel of Beth-zur*, p. 59, Fig. 50: 14 [my drawing]). The combination is unknown to me and scarabs of so great a size are very rare in this age.

<sup>22</sup> Cf. my remarks, BASOR 47, 10, and Rowe, PEFQS, 1933, 97 ff. (the proposed interpretation of the imitated hieroglyphs is forced). A single parallel has been published (from Tell el-Ajjūl, TA III, Pl. IV: 123).

<sup>23</sup> Cf. BASOR 47, 10. For scarabs of this Hyksos prince and various corruptions of them see Hall, *Catalogue of Egyptian Scarabs in the British Museum*, pp. 31-2, Nos. 284 ff.; Newberry, *Scarabs*, Pl. XXII: 4-XXIII: 3; Petrie, *Scarabs and Cylinders*, Pl. XXII: H. Our scarab helps to bridge the gap between the types reading *Yqb'r*, etc., and those which have *Ygbmw* or *Y'mw*. It is possible, but not likely that more than one name and king must be distinguished. For the position of this king in the Hyksos series cf. JPOS XV, 227; he must now be placed before the beginning of Dyn. XV

or not, but in any case the finding of so characteristic an example of an Hyksos scarab in period E<sub>2</sub> is very significant.<sup>34</sup>

52. In the campaigns from 1928 to 1932 we discovered 13 scarabs of certain or reasonably clear D provenience, together with three others which may belong to stratum D. The six from the 1928 campaign are illustrated in photography on Pl. 28: 9-14 and in drawing TBM I, 32, Fig. 5: 1-6; one is an impression on a clay sealing. A very fine example from room 8 of the D palace was found in 1930 (illustrated in drawing TBM I, 34, Fig. 6). In the fourth campaign six D scarabs were found (Pl. 29: 6, 8, 10-11, 13, 15), as well as one from E or D (Pl. 29: 14) and a very crude lava one from D or C<sub>1</sub> (Pl. 29: 12). One was picked up by a visitor on the surface of a dump after our 1928 campaign, and is probably D, though an E date is quite possible (drawn TBM I, 32, Fig. 5: 7). While it is dangerous to draw any conclusions from so few examples, it would seem that the glyptic art exhibited in the pieces from D is definitely more uniform and more conventionalized than that of E. Five of the E pieces (Pl. 29: 1, 3, 4, 7, 9) are hard to parallel closely; all of those from D are familiar in type (excepting the lava scarab).<sup>35</sup> The D scarabs (aside from Pl. 29: 12) are all of steatite; one (Pl. 29: 6) still has part of the copper ring in which it was set attached to it.<sup>36</sup>

53. Three cylinder-seals come from stratum E and none from D. The most important is naturally the beautiful haematite seal reproduced from two separate impressions, Pl. 30: 1, 3 (length 1.95 cm., diameter 1.00 cm.). This seal has some right to be considered the finest yet found in Palestine from the point of view of technique and decorative effect: the approximate date is certain; its provenience is marked with a cross in Pl. 19a. It may have been manufactured in Phoenicia, where the combination of archaic hieroglyphs (note the form of the reed-leaf!)<sup>37</sup> and cuneiform characters<sup>38</sup> would be most natural. As I

(HSAB 44-5, n. 9), i.e., toward the end of the eighteenth century B.C., a date which would leave ample time for the development and spread of the corrupt forms in question, including the scarab from E.

<sup>34</sup> For additional details with regards to Nos. 2, 3, and 7 see Rowe's new publication (CES), pp. 53 (No. 203), 48 f. (No. 182), and 19 (No. 66), respectively. His discussion of the *Ykb* scarab is particularly interesting. Note also that he considers No. 7 as the earliest of the group, attributing it to Dyn. XIII.

<sup>35</sup> For scarabs of the later part of the Hyksos age and the early part of Dyn. XVIII see TA I-IV, where Petrie has published over 700, practically all from tombs.

<sup>36</sup> Additional details on Nos. 10 and 11 are given by Rowe, CES 30 (No. 112) and 62 (No. 232).

<sup>37</sup> Note that the "Egyptian" seal-cylinders made in Asia all have the same feathered representation of the reed-leaf, which is characteristic of the Thinite and the early Memphite periods and appears sporadically down into the Middle Kingdom; cf. Montet's

have pointed out elsewhere,<sup>39</sup> this seal belongs to a small class which must be dated between 1800 and 1600 B. C. and is intermediate between the seal of Atanakh-il son of Khabsum from Taanach (19th century)<sup>40</sup> and the Syro-Hittite cylinder-seals from the Late Bronze Age.<sup>41</sup> Characteristic of the group to which it belongs are the graceful, well-modeled human figures with no clear indication of garments except a closely fitting loin-cloth, the vertical rows of avian, floral, or hieroglyphic decoration, the *horror vacui* which fills the scene with written characters, birds, and animals. Pl. 30: 5 is the impression of a cylinder of blue frit, with crumbling surface (2.5 by 1.5 cm.). Nothing is visible except four upright figures. The first (from left to right) seems to be a male figure with arm outstretched and legs well apart, apparently wearing a high tiara and a loincloth. The second is a shorter male figure with outstretched legs and slightly bent forward to face the first. The third, which is again taller, seems to be a female with long robe and a low head-dress; one arm is outstretched and the other hangs down. The fourth is at all events not human, but may possibly be a goat standing on its hind legs. The first figure is naturally a god, the second a suppliant, properly a king, and the third is a goddess; the scene is common on Egyptian royal monuments and still appears as late as the twelfth century B. C. in Moab.<sup>42</sup> Pl. 30: 7 is curious and

discussion, *Monuments Piot*, XXV, pp. 248-54 (his inclination to reduce the date of the cylinder to the Twelfth Dynasty and to consider it as perhaps Byblian work of the Middle Empire, *Byblos et l'Egypte*, pp. 67 f., goes too far; I should date it in the Pyramid Age and interpret it in general as is done by Borchardt, OLZ, 1931, 27). The inscription *Yḥṣt* is perhaps not meaningless after all, as I first thought (BASOR 47, 9), since *Yḥṣ[ ]* is the name of a town (?) in Syria in a list of conquered Asiatic towns from the Fifth Dynasty. Can it be the name of the original owner of the seal (cf. JPOS XV, 215, n. 69)? On this seal cf. also Rowe, CES 237-8.

<sup>39</sup> The cuneiform signs, three in number, run vertically between the figures. As they stand they make no sense, but if we suppose that parts of two characters have dropped out we should have a corrupt rendition of the commonest legend on Western seal-cylinders of the First Dynasty of Babylon: *(w)ara(d) ⁴(Ad)ad*, "servant of the god Adad," written vertically instead of horizontally.

<sup>40</sup> See my discussion, JPOS XV, 217 f., n. 73.

<sup>41</sup> *Loc. cit.* Since this was written Mr. A. Sachs has pointed out to me that the Atanakh-il seal is an offshoot of a Mesopotamian glyptic stage contemporary with Babylon I, and rather later typologically than the seals on the Cappadocian tablets. Since the latter belong to the 20th century, a date in the 19th thus becomes, in my opinion, reasonable for the Palestinian example.

<sup>42</sup> This group begins in the late 16th or early 15th century. The seal of Yakkub-edu (*loc. cit.*) is one of the very earliest, forming a transition between our seal from Tell Beit Mirsim and the Syro-Hittite class.

<sup>43</sup> See Horsfield and Vincent, RB, 1932, 424 ff.; Drioton, RB, 1933, 353 ff. There is no connection, of course, between our seal and Bälū'ah; the motive was borrowed quite independently from ultimately Egyptian sources.

unusual; it is an unfinished limestone cylinder (2.6 by 1.7 cm.), with the axis only partly bored through and the representation incomplete. The figures look like birds standing in human position, but I know no parallel for them at all.

54. While D has (accidentally?) yielded no cylinder-seals, it has produced several stamp-seals, especially one original and two sealings, all of certain D provenience (the first is drawn Pl. 31: 1; the other two are shown in photography Pl. 30: 4, 6, and in drawing Pl. 31: 3-4). The first is a small limestone tablet, 7 by 5 cm., with a rounded back, the maximum thickness of which is 2 cm. At first we took it to be a highly conventionalized model of a divinatory liver,<sup>43</sup> but there seems to be little doubt that—whatever the origin of the motive—it was used as a stamp-seal. Square stamp-seals with fourfold rectilinear ornament or maze patterns are common in the Second Intermediate period in Egypt and larger stamp-seals of the same class are even commoner in Asia Minor and Crete during the second half of the Bronze Age.<sup>44</sup> It may be added that I was present when it was discovered and I made sure that the earth in which it was imbedded was identical with that of the spot where it had been found. The two impressions are, respectively, half of a very accurate pentagon with a floral design and a square with fourfold spiral. The latter may also be roughly paralleled from Cretan seals, but its closest ornamental resemblance is with the spiral repoussé decoration on fragments of silver bowls from Byblus, cir. 1800 B. C.<sup>45</sup> I have no parallel for the pentagonal form of the other; the pattern has a general resemblance to that of a Cretan seal figured by Matz.<sup>46</sup> Pl. 32: 15 (D or C?) shows an impression from a stamp-seal of limestone, 3.6 cm. long, with a hole for suspension.

<sup>43</sup> BASOR 31, 6. In favor of our original view, that it represents a highly stereotyped and modified liver (of a sheep) with surrounding entrails may be cited Böhl's vigorous defence of the theory that the maze-pattern in general goes back to Babylonian representations of this type (*Analecta Orientalia*, XII, 6-23).

<sup>44</sup> On the maze-pattern in general with a strong defence of its Egyptian origin see now Deedes in S. H. Hooke, *The Labyrinth*, pp. 3 ff. According to Deedes it goes back ultimately to Egyptian hieroglyphs for "palace," and the like. The Egyptian plaques and seals cited by Deedes on pp. 7-8 are unquestionably the source from which the Aegean and Anatolian seals were inspired, but one may question Petrie's dating in the Pyramid Age and may better attribute them to the First Intermediate and the early Middle Empire. Particularly close parallels from the north are the quadruple maze on a bronze seal of square form from Cappadocia (cf. Matz, *Die frühkretischen Siegel*, p. 63, Fig. 23) and a Thessalian seal (Matz, Pl. XXVI: 13). Our tablet may perhaps be regarded as the result of a blending of the quadruple design so familiar in the Second Intermediate and the rectangular or oval form found in plaques.

<sup>45</sup> Montet, *Byblos et l'Egypte*, Pl. CXIII, from tombs I-II.

<sup>46</sup> *Op. cit.*, Pl. XVI: 17.

55. On Pl. 21: b are illustrated the playing pieces and teetotum found in the D palace (§ 44).<sup>47</sup> The teetotum is of ivory with an ivory plug running through it in order to keep it from splitting; the playing pieces (five cones and five three-cornered pyramids) are of blue faience. The teetotum is a truncated, four-sided pyramid, 17 mm. in height, 17.5 in width at the base, and 13 in width at the top. This was the first specimen to be published from Palestine, but a number have been found at Beth-shan and especially at Tell el-'Ajjûl, all from Middle Bronze II.<sup>48</sup> The four sides are pierced with a varying number of holes or eyes, ranging from one to four; the holes were perhaps inlaid with colored gum which has oxidized without leaving any trace. I have discussed the problem of the origin and diffusion of the teetotum elsewhere.<sup>49</sup> The playing pieces seem all to have belonged to an original set except one of the cones, which is 14 by 11 mm. while the others are all 17 by 10; we may suppose that one was lost or broken, and was replaced from another set. The cones are common elsewhere, but the tetrahedra are rare. None seems to have been found in other Palestinian sites, but that they were not uncommon is indicated by the discovery of a perfect specimen of blue frit (11 mm. on a side, whereas our five vary from 10.5 to 11.5) in an adjacent house (No. 772 from 32 D-2). Similar tetrahedra have been found in Egypt and were attributed by the late H. R. Hall to the Saite period.<sup>50</sup> However, Andrae has found similar tetrahedra, together with similar cones, in the great deposit of faience objects from the Ishtar temple of Tukulti-Ninurta I in Assur, belonging to the latter part of the thirteenth century (possibly to the beginning of the twelfth).<sup>51</sup> His interpretation of the former as "Brenntetraeder," used to separate faience plates and the like from one another during the process of vitrifying the surface, and of the latter as "Segerkegel" for the purpose of testing the temperature of the oven, is very ingenious but may safely be discarded in favor of the interpretation as playing pieces, made certain for the West by our find. The greater dimensions (tetrahedra: 17 mm on a side, cones: 24 to 29 mm. high) rather favor the interpretation as playing pieces. With their rounded corners and edges, the Assyrian samples remind us strikingly of the Egyptian, which may well belong to the contemporary late-Ramesside period instead of

<sup>47</sup> See BASOR 39, 6; APB 89 f.; *Mizraim*, I, 130-34.

<sup>48</sup> TA I, Pl. XXIII: 11; III, Pl. XXVIII: 10-14, 16-17; IV, Pl. XXXVI: 21-27. Most of these examples seem to be ruder than ours, but all follow the same principle, with spots only on the four sides.

<sup>49</sup> *Mizraim*, I, 132 f.

<sup>50</sup> British Museum Nos. 24348-24351 (formerly in case J in the fifth Egyptian room, with Saite objects).

<sup>51</sup> Andrae, *Die jüngeren Ishtar-Tempel in Assur*, pp. 99 f. and Pl. 39: r-w.

being Saite. I correctly inferred that the game was played on a popular ancient Oriental board with three parallel rows of four squares, and with the middle row prolonged eight squares on one side, making a total of twenty squares.<sup>52</sup> However, I failed to recall that we had discovered the ivory inlay of our game-board on the other side of the wall in 1928 (see Pl. 37:a). The wood of the board had oxidized, but 19 plain squares of ivory and one square with a diagonal cross, all 19 mm. on a side, were recovered; the square with the cross was probably at the end of the single middle row. The thin ivory strips at the right also belong to the board, forming inlay between the rows of squares, and so do some, at least, of the wider strips of ivory inlay at the left. After a number of efforts I have failed to secure sufficiently precise results to warrant publication of my reconstruction. However, we can safely say that the board was not less than 26 cm. long and may have been a little longer. The way in which squares and inlay were set may best be illustrated by a game box from a Theban tomb of the first half of the fifteenth century B. C., recently excavated by the Metropolitan Museum.<sup>53</sup> Here the squares used in our game are of faience, 27 mm. on a side, and strips of inlay of different width are employed to separate them. Against my former view, it is now certain that the game in question originated in Babylonia, where the Sumerians played on a board of twenty squares, a little differently arranged.<sup>54</sup> However, it was early borrowed in the West and it is common in Palestine in the Middle Bronze and in Egypt during the New Empire. In fact it was so popular in Egypt, where it was called "the robbers," that some Egyptian influence on form of teetotum and playing pieces is quite possible, just as the Qadesh of the plaques, derived from Babylonia, adopted the Egyptian form of the Hathor coiffure (§ 78).

56. Quantities of bone inlay, mostly carved with simple rectilinear designs, were recovered from both stratum E and D. This type of inlay disappeared

<sup>52</sup> See *Mizraim*, I, 4 f. Since this article was written, the material has increased considerably. Mrs. Van Buren has published (*Iraq*, IV, 11 ff.) a survey of the available Mesopotamian material, from the Royal Tombs of Ur on down. Grant has published a slightly later limestone game-board of our type from Beth-shemesh (*Rumeilch*, Pl. XX), in which the single row of eight squares is bent over to save space. Two of the squares are marked with diagonal crosses as in our example from stratum D (see below). Tell el-'Ajjūl has yielded part of an analogous game-board, contemporary with our period D (TA III, Pl. XXVIII: 25, also with teetotum and two kinds of playing pieces, one with rounded top, the other with pointed top).

<sup>53</sup> See W. C. Hayes in the *Bulletin of the Metropolitan Museum of Art*, November, 1935, Section II, pp. 32 ff.

<sup>54</sup> So correctly Van Buren, *loc. cit.* Von Bissing (ZDMG 89, 1935, 265) is right in objecting to my view that the game is of Egyptian origin, but he is wrong in considering it as originally Palestinian.

in the fifteenth century B.C. and seems never to recur. So far as can be judged by the available material the same is true of other sites in Palestine. A comparison of the samples on Pl. 35, 36, and 37: a (bottom), all of which belong to E or D where provenience is certain, with the examples published by Petrie from Tell el-Ajjul (TA I, Pl. XXII-XXIII; II, Pl. XXIV; III, Pl. XXIX; IV, Pl. XXXVII) and with the material published by Macalister (G II, 247 ff.; III, Pl. XXXIV, CXCV) is decisive, especially since I am not aware of contradictory data from other sites.<sup>55</sup> It is true that Macalister, though attributing more pieces to his Second Semitic than to any other, also assigns a few to First Semitic, more to Third and Fourth Semitic and two even to Hellenistic. However, he is definitely wrong. The pieces supposed to come from First and Third Semitic are in part clearly border-line cases, which should really be assigned to his Second Semitic. In part they, together with all supposed pieces from still later periods, have intruded in any one of several different possible ways into the wrong context. The bone and ivory inlay from the three sites may practically all be distributed among a limited number of patterns which were popular from the eighteenth to the fifteenth century and never before or after, so far as can be determined from our present evidence. It may be, of course, that the use of this type of inlay lasted a little longer, but it certainly died out before the second phase of L. B., which began in the fourteenth century. In the D palace we found the remains of an oxidized wooden box, with the inlay of the top and bottom still in position (Pl. 37: b) and with five additional strips of inlay, two of which (one to the right is Pl. 36: 26) are shown in Pl. 37: b lying in their original position at right angles to the top and bottom, while the third and longest (Pl. 36: 27) was found later 13 cm. west of the isolated strip and the two remaining ones (cf. Pl. 36: 28 for one) came from the vicinity. The inlay in the top and bottom (seen from the inside of the box in the plate) was undecorated except for peg-holes, while that used in the sides and ends(?) was decorated with double rows of drilled circles. Reconstruction must start from the longest piece, both ends of which were preserved (Pl. 35: 27); this would yield a minimum length of 17.8 cm. The other decorated strips were, respectively, 13.0 +, 9.5 +, 7.8 +, and 7.8 + cm. long. I should be inclined, therefore, to reconstruct the box as 17.8 cm. long and 13.0 + cm. wide, decorated on the sides with strips bearing drilled circles, and having inlaid plaques formed of plain inlay, 8.1 by 10.7 cm., in the middle of the top and bottom. With this may be compared the only one of three boxes found in the first campaign at Tell el-Ajjul which is sufficiently well pre-

<sup>55</sup> Cf. Galling, BRL 145.

served to be of value for our purposes (TA I, Pl. XXII-III). The dimensions of the top, cir. 18.0 by 12.8 cm., are nearly the same as ours, but more bone inlay seems to be used in top and sides. It is possible, but hardly likely that the decorated strips, instead of running around the sides, formed a frame around the edge of the top, as in the case of the long strips on the 'Ajjāl specimen. How the completed box looked, may be seen from an Egyptian toilet-box, inlaid with strips of wood and of blue faience, from the same early fifteenth-century tomb which yielded the inlaid game-board referred to above.<sup>56</sup>

57. The relative chronology of the types of geometric decoration found at Tell Beit Mirsim is not easy to fix. The latest types, found almost exclusively in the D palace, are prevailingly plain or decorated with drilled circles; see Pl. 37: a (except the piece with parallel diagonal lines, which came from a D locus outside the palace), b; 35: 26-38. The earliest ones which can be dated with certainty are those from E loci, especially the following: Pl. 35: 1-11, 13, 25-38; 36: 13-20, 22-25, 31—35: 12, 14 and 36: 3-7 and 21 were entered as probably D but may be E. The inlay from D (outside of the palace) is prevailingly of the same type; see especially the groups of certain D provenience, Pl. 35: 15-23 and 36: 1-2, 8-9, 10-12 (selected from a single group of 38 pieces, No. 2154), as well as the isolated or doubtful pieces 35: 12, 14, 24 and 36: 3-7, 21, 29-30, 32, all attributed to D but possibly in part from E. We have reproduced about half the inlay found, including all distinctive pieces, so complete publication would hardly add anything. It is probable that most of the pieces discovered in clear D context come from boxes which had been handed down for several generations, and that the inlay found in the palace reflects a later stage of manufacture. However this may be, the pieces shown on Pl. 35-36 are probably almost all from the seventeenth century. Outside of Palestine this type of inlay is known to me only in Hyksos Egypt<sup>57</sup> and in Middle-Bronze Asia Minor.<sup>58</sup>

58. Two very interesting bone plaques, also employed as inlay, were found just under the latest occupation level in S. E. 22 D-2 (the court of the palace), and are thus to be attributed to D<sub>1</sub>, about 1600 B. C. Pl. 34: a-b is an unretouched photograph while a'-b' has been inked in to show outlines more clearly. Since the incised outline was naturally colored, this brings the original

<sup>56</sup> See W. C. Hayes, *loc. cit.*, p. 29.

<sup>57</sup> *Sedment*, I, p. 10.

<sup>58</sup> *Researches in Anatolia* (Alishar), IV, 174, Fig. 225. The strips of bone inlay, which are identical with ours, come from stratum II and must, therefore, be dated in the first half of the second millennium B. C. Our evidence shows that they must be dated between 1700 and 1500 B. C., probably nearer the earlier than the later date.

effect out much better. The success with which running fawns are portrayed with a minimal number of strokes or lines is quite remarkable. The only parallels to the class of bone inlay decoration here represented seem to come from Tell el-'Ajjūl, where Petrie found three such strips, all from two phases of the first palace (TA II, Pl. XXIV: 1-3). No. 1 resembles our pieces strikingly in the way the two human heads are drawn. Being about 1.4 cm. wide, it is narrower than ours (both 1.9 cm. wide), but since our geometrically decorated strips generally vary between the limits 1.3 and 1.9 cm. in width, this difference is unimportant. It comes from the native marl under Palace I, and may thus be attributed to the seventeenth century B. C. (cf. § 67). Nos. 2 and 3, which come from the top of the ruins of Palace I and may thus belong to the middle of the sixteenth century, show quite a different technique from ours; No. 3, being 2.9 cm. wide, is considerably larger, and may perhaps be compared to the undecorated plaque from D<sub>2</sub> (Pl. 37: a, lower left), which is 2.7 cm. wide and was fastened in place with four copper rivets.

59. Weapons of copper are curiously few in number, principally because we did not excavate any tombs. It is to be hoped that some one will soon publish an archaeological monograph on the copper weapons of Palestine. Since we have no space to attempt such a detailed comparative study here and since our E-D types are all familiar, we shall content ourselves with a brief summary. The best-preserved or most interesting examples (about one-third of all found in M. B. II) from strata E and D appear in Pl. 41. The two daggers, Nos. 6 and 17, both belong to D: No. 6 is 15 cm. long, with four rivets; No. 17 is now only 11.2 cm. in length, with two rivets. This type is characteristic of M. B. II; cf. BRL 129 ff. No. 11 (D) is not a spear-head, as supposed by Macalister in parallel cases (G III, Pl. CCXVI), but a knife, with Petrie (TA, *passim*). The main difference between a knife and a dagger was that the latter was more strongly made, generally with a riveted handle instead of a tanged one, and with a sharper point. No. 19 (D) is certainly a spear-head, resembling one figured by Macalister (G III, Pl. CCXVII: 1, discussed G II, 375). Javelin-heads vary a great deal and the smaller ones are hard to distinguish from arrow-heads: characteristic ones are shown as No. 8 (D, 9.5 cm. long), No. 16 (D?, 10 cm.), No. 18 (D?, 9.5 cm.), No. 24 (D, 7.7 cm. with tang broken off); No. 18 is provided with a socket and so may belong to period C<sub>1</sub>. A number of copper arrow-heads were found in the course of three seasons of excavation in M. B. II layers, but most of them were broken or bent when found; No. 9 is a good illustration (from D). No. 3 (D) is a copper mace-head, which is not bored through as in the case of the characteristic diorite mace-head illustrated as No. 4, but is provided with a socket 4 cm. deep and 1.7 in diameter.

60. Tools and other objects of copper also became abundant in periods E-D; our illustrations form only a small part of the entire material. Six copper heads of axes or adzes are shown in Pl. 40: 1-6. Since the principal difference between an axe-head (set parallel to the handle) and an adze-head (set at right angles to the handle) is in thickness,<sup>59</sup> there can be little doubt that Nos. 1-5 are adzes and No. 6 an axe-head, since the average thickness (No. 2, 1 cm.; No. 3, 1.4 cm.; No. 4, 0.8 cm.; No. 6, 2.5 cm.) points unmistakably to this conclusion. No. 5 belongs to E, Nos. 2-4 come from D, and Nos. 1 and 6 are either E or D, preferably the latter. Few other identifiable tools of copper appear in M. B. II strata. The stone-workers' chisel shown as Pl. 41: 14 belongs either to D or to C. Wood-workers' chisels are illustrated Pl. 42: 10 (E), 11 (E or D). The knife 41: 11 has been mentioned already (§ 59). Here may also be included the copper chain shown Pl. 42: 12, which was found in débris between D and C, but probably belongs to the former. Many fragments of unrecognizable nature at least illustrate the fact that copper or bronze was already used at Tell Beit Mirsim for a multitude of purposes not mentioned above. Pins, needles, and related articles of copper will be treated below, § 62.

61. Interesting evidence for copper-working was found in stratum D. In SE 23 D-9 was found the limestone (*nârî*) mould Pl. 43: b, d, three sides of which were used for matrices while one side is blank, a fact which suggests that the mould was unfinished. The upper side in Pl. 43: b has matrices for an adze and for three knives (two of them sharing the same matrix, end to end, and evidently separated by the copper-smith after they had been cast); the upper side in 43: d has only two matrices, one for an adze, the other evidently for a brooch of the type described below, § 62. The third side (the lower one in 43: b, d) has only one matrix, for a knife about 43 cm. long before being forged into shape, and about 40 cm. long after having the handle bent back and the edge bent over slightly. The best parallel appears to be a contemporary knife from Tell el-'Ajjûl, TA III, Pl. XIX: 12), which was about 36 cm. long in the mould. A knife of this size was probably designed for use in butchering cattle. Two days after we had discovered the mould, we came upon two limestone crucibles, only a few feet away. Since the context of the latter was pretty clearly fixed as D, it is clear that our first impression with regard to the E date of the mould was wrong. The two crucibles are shown *in situ* Pl. 40: 7-8: the front one crumbled to pieces on being removed, but the back one, which had the same dimensions, was drawn (Pl. 31: 7). The

<sup>59</sup> See Petrie, *Tools and Weapons*, pp. 5 ff., for a detailed account of the functional differences between the two classes of tool.

material, which is refractory *nârî*, and the low level of the spout make it practically certain that the two basins were intended as crucibles for melting copper, and the fact that no traces of copper were found in them suggests that they had not yet been used, a conclusion supported by the unfinished state of the mould. The best parallel seems to come from Sinai, a century or two earlier; see especially Petrie, *Researches in Sinai*, p. 162 and Fig. 161.<sup>60</sup> About three-fourths of a copper ingot was found some distance away, in SE 32 D-2 (Pl. 41: 13). This type of ingot was very common in the Eastern Mediterranean in the latter part of the Middle Bronze and the early Late Bronze.<sup>61</sup>

62. Among toilet articles may be mentioned particularly copper (or bronze) toggle-pins, needles, and brooches. Scores of more or less broken toggle-pins, mostly fragments so bent and oxidized that there is no object in reproducing them, were found in strata E and D; in C they stopped abruptly, just as in other Palestinian sites where they also go out of use in the course of the fifteenth century.<sup>62</sup> Specimens are illustrated on Pl. 42, Nos. 2, 5-7, 13-14; No. 7 has a ring passed through the eyelet.<sup>63</sup> Nos. 5 and 7 belong to E; 2, 6, 13-14 are from D; 4 belongs to G-F (see § 32). Mme. Henschel-Simon has proved in her valuable monograph that the toggle-pin was not used for the hair, but to fasten a robe in place (*loc. cit.*, pp. 169-172, with full references), so my former objections to this view are herewith given up. In this connection it may be observed that a bone toggle-pin from D appears Pl. 40: 12; see Mme.

<sup>60</sup> Also *Tools and Weapons*, pp. 60 f.

<sup>61</sup> See especially Evans, *Palace of Minos*, IV, 652 f., and Eisler, *Jour. Roy. Asiatic Soc.*, 1923, 35 ff. and Figs. 1-8. Nineteen found at Hagia Triada date from the end of M. M. III, about 1600 B. C., and are thus roughly contemporary with our specimen.

<sup>62</sup> On the toggle-pin, its purpose, and its chronology see Mme. Henschel-Simon, QDAP VI, 169-209. The only weak side of this admirable study is chronological, since the author was sometimes misled by her authorities. A few of the attributions are due to error: e.g., Tp. 121-3, though all of the same type and all found in the same hoard (which is assigned by Petrie to "Dyn. XVI," i.e., M. B. II C) are variously attributed to M. B. I and L. B. I. Other false attributions are caused by obscurity in the excavators' records: e.g., Tp. 30 and 85, though both come from the same city-locus and level, TN 860 at Tell el-'Ajjul (which belongs to the 16th century according to the table of contexts, TA IV, Pl. LXIX), are attributed to L. B. and L. B. II; Tp. 42 from Tell Beit Mirsim is attributed to L. B. I, whereas it comes from stratum D. However, a few remain which do come from tombs of Iron I, and it is significant that nearly all these pins are distinctive in type. It would, therefore, seem that after the disappearance of the toggle-pin from Palestine from before 1400 to after 1200, it was sporadically reintroduced, possibly from Cyprus.

<sup>63</sup> See Henschel-Simon, *op. cit.*, p. 187, where there is a comparative treatment of the only other published example with a ring passed through the eyelet which has been found in Palestine, in a tomb of M. B. II at Jericho.

Henschel-Simon, p. 187. Copper needles, with eyelets at one end, are extremely common in E and D; characteristic examples are given Pl. 42: 1 (E) and 3 (D). Pl. 42: 15 illustrates a copper brooch from stratum D. This class of objects has been identified by Petrie; see TA IV, Pl. XXII: 237 and 238 (also p. 9 b), where the dimensions are the same as ours, though the oval guards are a little larger. A specimen of the same date from Ugarit has recently been published by Schaeffer; see *Syria*, XVII, 133, Fig. 19 (larger than ours). Above, § 61, we have suggested that a matrix in the M. B. II mould might be intended for a brooch. No. 16, from stratum E, is probably also a brooch, though the absence of guards is remarkable; it may also be a handle, but the first interpretation is preferable. In connection with the copper toilet articles we may also mention the haematite spatula shown Pl. 41: 10, which belongs to either D or C.

**63.** Some of the more interesting jewels and amulets from strata E and D are represented on Pl. 30: 2 (E); 32: 1-3 (D<sub>1</sub>), and 39: 3 (D), 37 (D), 38 (D?), 41-3 (E), 44 (D or E), 45 (E), 46 (D or E), 47 (E), 49 (E). The hippopotamus amulet (30: 2) is of yellow quartz, and is bored lengthwise for suspension. The gold spindle-beads (32: 1-3) were found in excavating under the floor of SE 22 D-8 (Nos. 2 and 3) and inside the south wall of 22 D-7; they are all, therefore, from D<sub>1</sub>. Contemporary gold spindle-beads have been found by Petrie at Tell el-'Ajjūl (TA IV, Pl. XV-XVI: 56, 58-60; Pl. XX: 169, 172; Pl. XXI: 203-4) and the type is now well-known. Pl. 39: 45 shows a faience bead of the same shape from E. The remaining objects may be disposed of briefly: 39: 3 is a faience amulet of the frog-goddess *Hqt*<sup>63a</sup> (used in child-birth); No. 37 is a spherical green bead; Nos. 38, 41-3 are of faience in familiar forms; No. 44 is inlaid glass; No. 46 is quartz(?); No. 47 is a jasper scaraboid; No. 49 is one in blue frit.

**64.** The arts of spinning and weaving are represented in strata E and D by many spindle-whorls and a few loom-weights. Most of the whorls are represented on Pl. 38.<sup>64</sup> Since they vary little from period to period (between M. B. II and Iron I, during which they disappear and are replaced by round

<sup>63a</sup> The only *Hqt* amulet published by Rowe (CES 277, A. 45) comes also from Hyksos times (Tell el-'Ajjūl, KD, 885 [III, Pl. XLVII and p. 3]).

<sup>64</sup> For the use of the whorls in spindles see the forthcoming publication of Tomb 1122 at Megiddo, knowledge of which I owe to the kindness of Mr. P. L. O. Guy. Two whorls were placed with the flat sides against one another between two cylindrical rods of wood, bone, or ivory, in such a way that a (copper) pin passed through the holes in the whorls into the cylindrical rods. This gave the whorls an independent rotating motion, together or separately. On the use of the whorls in spinning see especially Mrs. J. W. Crowfoot, *Ancient Egypt*, 1928, pp. 110 ff.

sherds of pottery), we shall list them all here, with period and material. It is curious that not a single certain example may be attributed to stratum E. Stratum D is represented especially by ten from the palace, room 8: seven (Nos. 1-7) in ivory; three (Nos. 27-28, 30) in black-stained ivory. Other whorls from D are Nos. 31 (ivory), 33 (steatite), 34 (stone), 35 (stone), 36 (bone); the last four may not belong to D but to E, E, C, and E, respectively. C is represented by Nos. 9, 11, 12, 19, 25 (broken), all in stone, 29 (bone), 32, 37, 38, all in stone. The rest all belong either certainly or apparently to B (Nos. 21, 24-5 may belong to C); No. 23, with five holes pierced through it is probably not a whorl, but possibly a button. Pl. 45: 1-16 represent terra-cotta loom-weights; the elongated, roughly pyramidal and conical forms (Nos. 1-8) belong to stratum D, over a dozen being found just northeast of SE 3 D-1, on the edge of SE 3 and 13. I have seen precisely similar loom-weights from M. B. II context in Balâṭah, ancient Shechem.<sup>65</sup> Nos. 9-16 all come from stratum A, in which doughnut-like loom-weights were found by the hundreds.

65. In this section we shall briefly describe miscellaneous relatively interesting objects of stone and bone which were found in strata E and D. Pl. 31: 5 represents a large fragment of the rim of a diorite bowl of Egyptian make which was found in E (or possibly in F). In Egypt this type of vase ceased to be made after the Pyramid Age so we may suppose that this bowl, like a somewhat similar one found intact by Grant at Beth-shemesh,<sup>66</sup> had been exported from Egypt to Palestine by grave-robbers. The limestone crucible, Pl. 31: 7, has been discussed above, § 61. Pl. 38: 39-40 illustrate two of three tripod mortars of lava (coarse basalt), two coming certainly from E (No. 39 and another larger one of the same type) and one (No. 40) belonging to either E or D. The dimensions of the three are—No. 39; height 13.5 cm., diameter of bowl 21.7; S. N. 2478 (from the same locus as the preceding): 12.2 by 29.5; No. 40 (from NW 32 A-10 near the rock in M. B. II context): 33.4 by 14.7. Petrie has found similar tripod mortars in the M. B. II of Tell el-Ajjûl (e.g., TA III, Pl. XXVII: 93-4; IV, Pl. XL: 88-94). Three stone mace-heads are figured Pl. 41: 4 (D-diorite), 44: 1 (D-diorite), 44: 2 (E-limestone). All are of the usual pear-shaped form, which altered little in many centuries, and their dimensions are, respectively: height 5.4 cm., diameter 5.4; 6.5 by 6; 6 by 5.3. The basalt axe-heads, Pl. 44: 3-4, were both found in ambiguous context, No. 3 in A débris, NW 33 A-10, and No. 4 in mixed débris from M. B. and L. B. I, but both are probably from our period.

<sup>65</sup> Petrie lists terra-cotta loom-weights of this form and age among his weights; cf. TA IV, Pl. LVII, Nos. 5898, 5921, 5983, etc.

<sup>66</sup> *Ain Shems*, I, Pl. XVI: b.

The alabaster pommels, Pl. 44: 5-6, were both discovered in a clear E locus (§ 47); they were fastened to the dagger-handle by a copper cross-pin inserted through the two holes bored on the under-side. The type is characteristic of M. B. II. Pl. 44: 8, 12, 13, 15 illustrate typical pounders of M. B. II (No. 8 from E is limestone, Nos. 12 and 15 from D are of coarse basalt, No. 13 from E is coarse basalt). The figure Pl. 44: 7 is a haematite weight of the sphendonoid form which is characteristic in the M. B. II and L. B. I over the Eastern Mediterranean basin; its weight is 6.75 g., in agreement with the three strokes incised on it.<sup>67</sup> Pl. 45: 17-23 illustrate flint knives with two edges and sickle-edges of the earlier period, down to about the transition from H to G (cf. above, § 18), while 45: 24-36 show typical sickle-edges of later type, from E to C inclusive. Early in period B sickle-edges of flint disappear, never to return. Bone awls lasted well down into the latter part of the Bronze Age. On Pl. 40 are shown examples from E-D: Nos. 15, 18, and 20 were picked up in D context and Nos. 13, 17, 19, and 22 in stratum C. No. 10 is a bone needle from C; No. 12 is a toggle-pin, treated above (§ 62); Nos. 14 and 16, from H, have also been mentioned above (§ 22). Many more examples were found, but since they are all of similar type, this group of illustrations will suffice.

66. As stated before, no undisturbed tombs nor intact burials were found in Tell Beit Mirsim during our four seasons of work there. However, a fair number of whole or fragmentary human skeletons were exhumed. In most cases they seemed to have been slaughtered and buried under the débris of falling houses, but several seemed to have been buried in shallow holes, quite without funeral offerings. The most interesting example from strata E-D is a single

<sup>67</sup> The principal parallels come from Petrie's excavations at Tell el-Ajjul, where the metrological situation is wholly obscured by a "shot-gun" inductive method which disregards the essential criteria of form, material, and markings. Petrie has thus overlooked the vital fact that he has several haematite weights, presumably all of sphendonoid form (as occasionally stated), which belong together though distributed in his tables of weights through several different classes called "Doric," "Stater," and "Beqa." In his four tables of weights (TA I-IV *ad loc.*) he lists four haematite weights with two or three parallel incised strokes. Those with two strokes weigh, respectively, 66.3 grains (No. 5674), 67 (No. 5925 A), 68 (No. 5929). Other haematite weights of this type are Nos. 5675 (67.4 gr.), 5748 (67.9). One of his has three strokes like ours; it weighs 104 grains (No. 6094), with which may be compared three haematite weights (Nos. 5724, 5726-7) weighing 103.7, 104.5, and 104.8 gr. Since our piece is identical in weight with his No. 6094 (6.75 g. = 104 gr.), it is certain that we are dealing with one and the same system, in which a unit weighs  $\pm$  34.6 gr. or 2.25 g. For other examples of the class see Evans, *Palace of Minos*, IV, 655 f. and Fig. 640, as well as Schaeffer, *Syria*, XVIII, 148, Fig. 13.

skeleton found in débris of mixed E-D character in the area underlying SE 23 D-8 (July 14, 1932). The following description has been furnished by Professor Louis Krause of the University of Maryland (M. D., Johns Hopkins University), who was with us at the time. The skeleton is shown in Pl. 20: a.

. . . A single skeleton facing downward with the thigh bones flexed upon the abdomen and the legs flexed upon the thighs, with the entire extremity rotated outward. The feet extended so as to present the plantar surface upward. The skull (before it was struck by a workman's pick) was fractured from the occiput irregularly through the temporal bones to the middle of the face. The left arm was apparently at the side as indicated by the humerus; the forearm was not present. There was no evidence of right arm or forearm, but the few metacarpal (hand) bones were beneath the right shoulder indicating flexion of forearm upon arm. The humerus of the right arm was missing. The scapulae and most of the ribs were in natural position. The vertebrae were in good alignment, with sacrum in position of articulation with ilii (hip-bones); the coccyx was not seen. Ilii and ischii were well preserved, but the pubic arch was not visible. Closer examination of the skull showed an extremely receding forehead with moderately prominent orbital ridges. Insertions and origins of muscles were well developed.

In May, 1928, remains of human bodies were found in the débris of the D destruction in SE 22-23-32-33. A brief description was given us by Paul Culley (M. D., Johns Hopkins), who was a member of the staff; the following may be quoted:

. . . More nearly complete skeletal remains of other bodies were found, in upper stratum D, mostly very brittle. Several long bones of children were well preserved. All the skulls were adult and not particularly remarkable; they did not allow of preservation, falling to dust at a touch. The position of skulls, vertebrae and ribs was uniform in that the ventral aspect was down [i. e., all were lying on their faces]. Several teeth were preserved in each of these skulls, showing evidence of marked dental caries. No metallic objects were found in or near the bones.

There seems to be little doubt that the remains of bodies (some six to eight in number) described by Dr. Culley belong to the slaughter of the inhabitants which followed the storming of city D, since the bodies had certainly not been buried and were found lying face downward.

67. The pottery chronology of strata E and D was correctly established in the main by my previous studies in TBM I and I A. However, the general picture of the ceramic chronology of M. B. II has been slightly modified by the latest discoveries at Megiddo, which enable us to correct Petrie's chronology of Tell el-'Ajjūl and to fit Tell Beit Mirsim E and D more precisely into the Palestinian picture as a whole. Since I shall discuss the question in detail in a forthcoming paper on the chronology of Tell el-'Ajjūl (to appear in AJSL), I can be brief here. Thanks to the 1936-7 campaign at Megiddo,<sup>68</sup>

<sup>68</sup> ILN, Oct. 16, 1937, pp. 655 ff.; cf. BASOR 68, 22 f.

it is possible to fill in certain gaps at Tell Beit Mirsim, notably the lacuna between strata D and C, which I had previously supposed to last anywhere from one to four generations. Stratum VIII at Megiddo is characteristic L. B. Stratum IX, however, which came to an end, as shown by convincing indications of ceramic chronology and material situation, with the fall of the city into the hands of Tuthmosis III, 1468 B. C.,<sup>60</sup> is characterized by the extraordinary popularity of bichrome ware, decorated with birds, Maltese crosses, fishes, cart-wheels, and multiple geometric designs. This ware appears to have made its appearance in the preceding stratum, X, where it is still rare. Strata XI and X belong together with IX in such respects as town-planning, abundance of scarabs and bone inlay, with a dominance of undecorated pottery, including in XI rare specimens of pricked Tell-el-Yahūdīyeh and Cypriote "black-on-white" jugs and in X the beginnings of bichrome ware. The preceding four strata, XV-XII, seem to correspond to our G-F-E<sub>1</sub>: pottery ranges from red-burnished forms like Syrian ware of the late Twelfth Dynasty in XV to a high proportion of piriform juglets with button-base and single, double, or triple handles, together with jugs and carinated bowls of burnished red slip, in XII. Without offering more than a very tentative rapprochement in the absence of detailed information, one may attribute XV to the early part of our G, XIV and XIII to G-F, XII to early E. Stratum XI corresponds unmistakably, though doubtless roughly, to our E<sub>2</sub>, while X is just as clearly contemporary with our D. The excavator's dates, cir. 1700-1650 for XI, cir. 1650-1550 for X, and cir. 1550-1479 for IX are reasonable, though I should date the end of IX in 1468, following the new Borchardt-Edgerton chronology, and should be inclined to lower the dates of XI and of early X somewhat. The most important observation is that Megiddo provides an adequate explanation of the total absence of bichrome pottery in stratum D at Tell Beit Mirsim, which has been rather surprising, since quantities of this ware have been found in the upper stratum of Tell el-'Ajjūl and in Palace II, as well as at Tell el-Hesi, Beth-shemesh, and other places in the neighborhood of our site. In AJSL I shall show that Palace II at Tell el-'Ajjūl must be dated between 1550 and 1468 B. C. and that the upper city belongs to the same time. The absence of this ware in stratum D is simply due to the fact that it had either not begun to be imported at all or more probably was still rare at the time of its close, which must be dated somewhere in the latter part of the reign of Amosis I, cir. 1570-1546 B. C. This new material confirms the date which I have long

<sup>60</sup> The Egyptian chronology used here follows Borchardt, with Edgerton's revision: see the former's *Die Mittel zur zeitlichen Festlegung von Punkten der ägyptischen Geschichte und ihre Anwendung* (Cairo, 1935, especially pp. 78 ff.) and the latter's paper, AJSL LIII, 188-197.

maintained for the end of our D, cir. 1560-1550 B.C. I should now be inclined to make D begin about 1600 and to make E cover the seventeenth century, going back into the late eighteenth, thus reducing dates in E and early D by a few decades. It is rather risky at this stage of our knowledge to make a comparison with political history. However, after Farina's discovery that the Turin Papyrus attributes six kings and 108 years to the principal Hyksos dynasty, Manetho's Fifteenth,<sup>70</sup> it follows that the ephemeral Hyksos empire of Khayana and Apophis must fall in the second half of the seventeenth century, which would coincide with E.<sub>2</sub><sup>71</sup> E<sub>1</sub> would then fall in the early Hyksos period, when Palestine was being flooded with northern invaders and new types of armament (chariots) and fortification (*pisé* embankments, etc.) were coming into general use. D would belong to the age of Hyksos decline after the end of Dyn. XV and would last until the Egyptian conquest of southern Palestine near the end of the reign of Amosis I (or possibly at the beginning of the reign of Amenophis I).

<sup>70</sup> See Pahor Cladios Labib, *Die Herrschaft der Hyksos in Aegypten und ihr Sturz* (Glückstadt, 1936), and my observations, HSAB 44 f., n. 9.

<sup>71</sup> For the situation in Western Asia at this time, which is much better known since the publication of the new evidence for absolute chronology from Mari, see my observations BASOR 69, 21.

## CHAPTER V

### STRATUM C (LATE BRONZE)

68. Stratum C proved to be disappointing. In fact, though it lasted from two to two and a half centuries (see below, § 87) as against a duration of between half a century and a century for stratum D, it is incomparably less well preserved. There can be no doubt that the occupation of this period covered the entire area within the city-walls of stratum A, since artifacts and occasional fragments of walls, etc., were found all over the excavated area in the northwest. Yet it is only in the southeast quadrant that we found clearly defined stratification of this period (Pl. 52), varying in thickness from not more than half a meter over the D palace in SE 22 (cf. the cross-section Pl. 53 B) to about two and a half-meters at the northern end of SE 24. At the northern end of SE 14, again, C becomes very thin, owing to the height of the preserved G-F city-wall, against the inside of which were built successive phases of E-D, with A foundations running over the top of the ruined city-wall. The deposits of C in the southeast are characterized by disproportion between the great masses of ash-filled débris which occur everywhere and the building remains, a lack of balance which strikes one very forcibly when contrasted with the situation in other periods, though all were closed by conflagrations.

69. At first, during the clearance of about 500 sq. m. of stratum C in 1928, only one phase of it could be distinguished, owing, as we discovered later, to the thinness of the deposit over SE 22 and to the fact that we failed to dig below the top phase of C in SE 23 and 33. During the 1930 campaign, however, we cleared 1500 sq. m. more (cf. Pl. 18a) and in several places found clear indications of superimposed C foundations and of an earlier conflagration, though the latter remains rather intangible, owing to the fragmentary character of the traces. In 1932 remains of C<sub>1</sub> were found scattered over this area, being quite well preserved in SE 23 and 24, with several pairs of superimposed floor-levels. A relatively large number of threefold sequences was found scattered over the area (e.g. in the south of SE 23 and the north of SE 24). In such cases it is hard to be sure just what constitutes C<sub>1</sub> and what C<sub>2</sub>. Since the pottery criterion is seldom adequate in itself for this purpose (see below, § 87), and since there are very few floor-levels preserved below C<sub>2</sub>, we must content ourselves with very general conclusions. In Pl. 52 all certain loci of C<sub>1</sub> are identified by following the number or designation, while clear walls of C<sub>1</sub> have been indicated by broken lines (long-short-long, dash-dot-dash), but I have been very cautious about making inferences from

foundation levels alone, since the terrain was relatively uneven, though much less so than in previous periods (cf. Pl. 53). Even where the foundation levels of adjacent walls seem to be decisive, I have generally refrained from giving a specific attribution to C<sub>1</sub> or C<sub>2</sub>.

70. The length of the abandonment of the site between strata D and C<sub>1</sub> (cf. §§ 35, 87) cannot be determined exactly, but there can be no doubt that it was appreciable. All over the area in the southeast quadrant we found that there was a sharp cleavage between the two strata. This cleavage was particularly marked in the area around the D palace. In other words the ruins of period D had been gradually leveled by natural forces and the new foundations were therefore laid on what appeared to be natural terrain, instead of being set on or beside older foundations, as was true of D and C<sub>1</sub> and to a lesser extent also of B and A<sub>1</sub>. In this new terrain which had been leveled by nature, directly under C foundations, we found unlined storage pits which had been dug into the ruins of the D palace by squatters, between periods D and C<sub>1</sub> (see § 45, above). Owing to the fragmentary preservation of L. B. foundations and the difficulty of distinguishing sharply between C<sub>1</sub> and C<sub>2</sub>, stressed above, it is hardly possible to say whether the occupation of the former was more or less intensive than was true of the latter. So far no clear trace of C<sub>1</sub> fortifications has been discovered, so we might suspect that the town was an open settlement at that time. However, this deduction would only be based on negative evidence, against which can be set a number of cogent facts which make it much more likely that C<sub>1</sub> was fortified with a stone-and-brick rampart. 1. The general plan of the town was similar in both periods, with a street running along a line roughly concentric with the city-wall. 2. The best preserved remains of C<sub>1</sub>, with the greatest thickness of deposit, are just inside the line where the wall should run. 3. The houses of C<sub>1</sub> are just as well built as in C<sub>2</sub>, with double walls, which contrast strikingly with the single stone walls which prevailed, e. g., in the L. B. stratum at Beth-schemesh. In other words, badly as C<sub>1</sub> is preserved, it was a respectable town in its day. 4. The large number of grain-pits or silos strewn over the excavated area of C<sub>1</sub> and mostly dating from that phase, suggests that the town must have been protected against raids. 5. Between the C and the B foundations along the edge of the city in SE lie masses of grayish yellow débris, free from sherds but not sufficiently hard nor homogeneous in texture to represent pisé construction. There can be little doubt that this débris came from the adobe superstructure of the walls of C<sub>1</sub> and C<sub>2</sub>. Since no houses of C<sub>1</sub> can be reconstructed with any approach to confidence, we can only say that the better houses seem to have resembled the better houses in C<sub>2</sub>, as well as in contemporary strata at

Bethel and Beth-shemesh, i. e., a fairly big court was partly surrounded by single or double rows of small rooms. For details we refer to § 72, where the typical C house will be described.

71. At some time during the fourteenth century (see § 87) was built the city-wall of C<sub>2</sub> shown in Pl. 52, SE 24, where a cut made through the B-A city-wall in 1930 exposed it. This wall is built with large, irregular stones, averaging about 60 cm. in length: its width is almost exactly 2.50 m. (five cubits). In the excavated fragment we nowhere have more than three courses and many of the stones have been removed even from the lowest course, showing that this wall was used in period B as a quarry. The width of the wall is identical with that of the M. B-II wall of Beth-zur, which probably dates from the end of M. B. II, about the second half of the sixteenth century.<sup>1</sup> To roughly the same age belongs the M. B-II wall of Bethel, which resembles the Beth-zur one closely in its masonry and which was probably about as wide.<sup>2</sup> The Bronze-Age wall of Beth-shemesh, which belongs to about the same time or a little later (cf. above, § 38) is 2.25 m. wide.<sup>3</sup> There appears to be no other comparable material. The age of the wall is made certain by the fact that the foundations of the partition walls of C<sub>1</sub>, which run at right angles to it, were partly under it, and were partly removed in the process of sinking the foundation trench for the city-wall. Moreover, the floor-levels of SE 24 C-1'-2' are below the foundations of the city-wall. Across the top of the broken city-wall runs a fragment of masonry (between levels 492.49 and 493.04) which was originally attributed to stratum C, but which must belong to an early phase of B, before the construction of the present Iron-Age wall. Against the wall abut partition walls of C<sub>2</sub>, with floor-levels higher than the foundations of the wall itself.

72. The best preserved house of stratum C<sub>2</sub> is found in SE 12-13-22-23, with partially reconstructed plan on Pl. 56. To the east, in SE 22, there seems to be a similar, but smaller house. South, in SE 23, is again a larger house, with a courtyard (SE 23 C-8, paved, at least in part, with cobble-stones. Other houses seem to be considerably smaller, but the walls are too fragmentary to make any definite conclusions possible. The type of house in question is characterized by a relatively large court on two or three sides of which are (in more important houses often double) rows of small rooms. Palaces of

<sup>1</sup> See BASOR, 43, 6; Sellers, CBZ 9, 26 f., 33.

<sup>2</sup> BASOR, 56, 5. During our 1934 campaign we were unable to expose an intact portion of the outer face of this wall, but it cannot have been less than two meters in thickness.

<sup>3</sup> APEF II, 10 ff., Pl. II; see also above, Ch. IV, n. 9.

the type are known from L. B. strata at Megiddo and Taanach, as well as from Bethel.<sup>4</sup> For a good example of a smaller house belonging to the same age we must turn to Beth-shemesh and Gezer, especially to the former, since the Gezer plans are extremely hard to interpret.<sup>5</sup> In Pl. 18 b is a photograph of an extremely well preserved section of fallen roof which settled in horizontal position and is thus very easy to study in detail. It is located at the northern edge of the excavation in the southeast, just north of SE 22 C-2-3. There are completely oxidized remains of four roofing beams, which appear as black trapezoids with lighter spaces between them. The two middle trapezoids measure respectively (from left to right) 42 by 37 by 20 and 40 by 30 by 18 cm. These figures include the "shells" which have formed around the beams. The trapezoidal shape of the section is presumably due to the burning, which attacked the upper part before the lower and which produced a little talus of ash at the sides, so the original measurements of a beam may have been about 30 by 20 cm., i. e., about 12 by 8 inches or a little more. How long the beams were we cannot say. Between the beam sections are spaces filled with earth mixed with ashes, lime plaster and mud plaster (*tin*), in which the interstices left by oxidized straw are visible. The original roof (or ceiling) was thus composed of large beams, set about 60 cm. apart, above which was a layer of thin rafters, apparently semi-circular in section, above which was a thicker layer of *tin* and plaster. From the size of the beams we must infer that the building to which they belonged was more massively constructed than any remains exposed to the south of them would permit. In other words the foundations of the original structure are still unexcavated. The structure itself may have been connected with the temple which we may deduce from the stone lion and libation tray (§ 75). It should be added that there is no difficulty in connecting the section of fallen roof with an original building to the north of it, since buildings situated in this area would normally collapse down the hill, here in a southerly direction.

### 73. Characteristic of strata C and B, from cir. 1400 to cir. 1000 B. C. are

<sup>4</sup> See Watzinger, DP I, 58 ff., with references. For the subsequent discovery of a similar L. B. palace at Bethel see BASOR, 56, 7 ff. A particularly fine example of the type has recently been excavated at Megiddo; see ILN, Oct. 16, 1937, pp. 655 ff. The original construction dates back to stratum IX (cir. 1550-1468 B. C. [see § 67, above]), a date which would correspond very well to the very late M. B.-II phase of the Bethel palace, which seems to exhibit the same general plan. The two examples suggest that the L. B. type in question came into use between the middle of the sixteenth century and the second quarter of the fifteenth.

<sup>5</sup> For Beth-shemesh see Grant, *Rumeileh*, Map III and especially Map IV, which offers a fine example of this type, dating from L. B. I. For Gezer see G I, 171, and III, Pl. IV, 28, etc.

cylindrical stone-lined, flat-bottomed grain-pits, which we may call "silos" for convenience, though the present English connotation of this word is somewhat different. These pits were lined with gypsum plaster or with *hūwar*, which kept them relatively water-tight at the same time that it permitted moisture in the pit to ooze out. No roofs or covers have been preserved, but we may safely infer that they were as well made as ordinary house-roofs. The larger ones were built outdoors but many of the smaller ones were certainly inside the house, usually in the court. The importance of silos for the classification of pottery has already been discussed (TBM I, § 72). In stratum C it is so difficult at present to make a sharp distinction in the phases of local Canaanite pottery between the late fifteenth and the middle of the thirteenth century that we have not been able to attribute the silos to successive phases except when they stand in definite chronological relation to walls of known age. We find numerous cases where a C silo was abandoned and where one or more C silos of later date have been built into it or over it. It is clear that the presence of silos inside the city points to two things: 1. the state of public security was bad and the Canaanites were exposed to constant danger of raids; 2. the town was not so densely occupied at that time as it had been in M. B. and was to be in period A. Since the same situation existed in period B, these two reasons are probably adequate, without attributing the presence of so many silos inside the walls to a widespread custom of the time. Against the latter hypothesis speak with no uncertain voice the discoveries in nearly all L. B. and Iron-I towns to the north (e. g., Eethel, Gezer).

74. A supposed silo (No. 49 in SE 23 C, 1930 campaign) turned out to be an olive-press (Pl. 19 b). Here we have an oval basin, 2.00 by 1.70 m., sloping toward the northeast. The basin is carefully paved with a large flat slab, around which are set smaller flat stones, laid in plaster; it was originally surrounded with a low stone retaining wall. At the northeast end is a small vat, hewn out of a rounded stone with a flat top; the mouth of the vat is about 40 by 30 cm., and it is about 35 cm. deep, with a little settling basin at its bottom. The closest parallel seems to be the installation in Silo 43 in SE 12 B, which will be described in TBM III. There are a number of smaller basins and installations of various kinds in stratum C, but none is sufficiently important or well enough preserved to merit special treatment here.

75. At the end of the 1930 campaign and the beginning of the 1932 one several discoveries were made which definitely point to the existence of a temple in SE 3 or 2. July 25th, 1930, was found the limestone libation tray decorated with lions (Pl. 24 a-b) standing on its side in clear C débris in SE 3. Hard by it was discovered three weeks later, during the process of removing

walls of B preparatory to filling a neighboring excavation, the limestone lion illustrated in Pl. 23. The right paw, which was missing, turned up near by on the second day (June 18th) of work the following season. Continuing work in the débris around the spot we found numerous bones of cattle, including the broken skull of a horned ox (photographed June 26th). The sherds continued to be of pure C type. There can be no doubt that both libation tray and lion had been thrown out into the débris, to judge from the position they were found in and the nature of the enveloping material. The lion presumably formed one of a pair, which may have flanked the main entrance to the temple or may have stood on either side of a statue of the Canaanite goddess (see below). The ox-bones which underlay the débris in which the cult-objects were found, cannot be separated from sacrificial rites. E. g., during Alan Rowe's clearance of the temple-complex of the time of Tuthmosis III (really to be dated in the fourteenth century, as shown by subsequent work) at Beth-shan, he discovered the horns and bones of a young bull, which had unquestionably been sacrificed.\* Since none of the foundations of stratum C in the vicinity can well belong to a temple, it probably follows that the latter was situated either in SE 3 or in SE 2, preferably the latter, since the temple would presumably lie somewhat higher on the mound than the remains which we describe. The invaders who destroyed city C evidently sacked the temple, breaking the sacred objects which it contained or throwing them into the rubbish outside. Since this destruction took place in the late thirteenth century, we can hardly doubt that the invaders were Israelites.

76. The libation tray (Pl. 24) is unique so far. It is made of soft, chalky limestone and measures 27.9 by 29.3 cm. The bottom is flat and the top is scooped out in such a way as to form a roughly semicircular basin, the radius of which is about 10.5 cm. From the end farthest from the large lion's head projects a shallow spout through which the liquid in the basin could be poured out by tilting the tray. The rim of the tray is decorated with one large lioness' head (9.4 by 5.9 cm.) which projects from the rim in front, her shoulders and fore-legs being roughly incised on the adjacent rim, as well as with the fully extended forms of two lion-cubs, whose heads project from the two rear corners (the right head is broken off) and whose two pairs of hind-legs stretch out to form the channel of the spout. It is hardly necessary to stress the extreme crudity of the technical execution and the grotesquerie of the object as a whole, which are on a level with the treatment of the lion in the round. I know of no good parallels to this object. There are many

\* Cf. Rowe, *Discovery*, May, 1928, pp. 138 f.; *Museum Journal*, December, 1927, pp. 423 f., January, 1929, pp. 38 f.; THBS 11 f.

stone vases, especially from early periods in Mesopotamia, which are decorated with animals in relief, but only one shows any similarity in plan to ours. This is a bowl of bitumen found by De Mecquenem at Susa and dated by him to about 2000 B. C.: the head and neck of a wild goat project from the front of the bowl, with outlines of the body lightly incised on the exterior of the vase on either side; the remainder of the exterior is occupied by two smaller incised wild goats, symmetrically arranged on either side of a tree.<sup>7</sup> Probably from the beginning of the first millennium comes a shallow bowl in black stone, published recently by Opitz.<sup>8</sup> This bowl is circular, with a handle and a partly covered spout; handle and spout are formed by lions' heads facing inward with two similar lions' heads in the middle of the two sides. The bowl seems to be correctly connected with a group of small libation bowls from Syria, dating from the early centuries of the first millennium.<sup>9</sup> For further observations on the style and date of our object, see the next section.<sup>10</sup>

77. The lion (Pl. 23) is the only one of its kind yet discovered in Palestine. Measuring 53.5 cm. in length, with maximum height of 24.1 cm., it approaches monumental character more closely than does any comparable object from pre-Hellenistic Palestine. The material is of harder limestone than the libation tray, a fact which may partly account for the sketchiness of the carving. The lion was originally painted, at least partly in red, to judge from surviving traces. When first found the Arabs called it *khanzir* ("pig"), until one of them called attention to the long tail lying over its back, after which they admitted its identification with a *sabi'*. In view of the obviously rustic quality of the carving, best illustrated by the head, it is evidently hopeless to attach it to any known school of sculpture, at least with our present knowledge. It is quite impossible to believe that our lion, with its inoffensive modesty, was carved by the same person to whom we owe the grotesque libation tray; both material and execution, to say nothing of conception in detail, differ too widely. The stratigraphic evidence for dating (see § 87) points clearly to the thirteenth century B. C.<sup>11</sup> The slowly accumulating material for the history of art in

<sup>7</sup> *Revue d'Assyriologie*, 21, 113.

<sup>8</sup> AOF VII (1932), 236 ff. and Pl. XI.

<sup>9</sup> Przeworski, *Syria*, XI, 133 ff.; Watzinger, DP I, 108 f.; Albright, BASOR, 47, 15 f., JPOS XVI, 57. On the ground of an oral communication from Dr. C. S. McEwan, I no longer accept either Przeworski's explanation or my substitute, but regard these objects as having been inserted into flasks of some kind, the liquid from which flowed into them when the flask was tilted.

<sup>10</sup> See also APB 94; JPOS XI, 116 f.; Watzinger, DP I, 70; Galling, BRL 341.

<sup>11</sup> Contrast BASOR 39, 7; JPOS XI, 116 f.; APB 94. The first date about 1400 B. C., later modified to between 1500 and 1250, was due to the false assumption that phase

Canaanite Palestine and Syria points in the same direction. It is now certain that there was a pronounced artistic decadence among the Canaanites between the sixteenth and the thirteenth centuries B. C. In the Hyksos age ceramic, glyptic, and sculptor's art reached a relatively high degree of excellence, characterized by accuracy in drawing and portraying, elegance of line, and perfection of technique. Thus pottery declines rather steadily from the seventeenth to the thirteenth century B. C.; painted pottery is at its best in the fifteenth century and becomes very bad in the thirteenth. The glyptic art of the seventeenth century is illustrated by Pl. 30: 1, of the thirteenth by Pl. 33: 2. The serpent goddess (Pl. 21: a) shows Canaanite provincial art in the early sixteenth century; its kinship to the roughly contemporary (or slightly later) stelae of Ugarit<sup>12</sup> is unmistakable. Compare, on the other hand, the rough workmanship of the late stela of Ugarit recently published,<sup>13</sup> which closely approaches the technique of the Tell-Halaf orthostates, and must be dated about the end of the thirteenth century. Beth-shan shows a similar decline, beginning with the period of the superb lion slab (probably fifteenth century) and coming down to the crude clay cult-stands of the thirteenth or twelfth centuries. The artistic renaissance of Phoenicia in the twelfth century is another story, which does not concern us here.<sup>14</sup> It is easy to find partial explanations for the decline: the oppressive effect of centuries of Egyptian misrule and taxation; the discouraging effect of Egyptian and Aegean artistic superiority which led to the substitution of importation for creation; the normal decline of the instinct for creation after a peak of development, etc.<sup>15</sup>

78. Some twelve whole and broken Astarte plaques were either found in certain C context, or were discovered in mixed débris and must be attributed to C on typological grounds. The attribution of most of them to stratum C is certain on stratigraphical evidence alone. Since they will be described more fully in the *Mélanges Dussaud* (see above, § 50), we can be brief here. The most common type is that of the naked goddess standing *en face*, with

C<sub>2</sub> began about 1400 B. C. (see § 87) and that these objects show a relatively pre-Egyptian stage of culture and might have been in use for a long time before the final destruction of C. It is actually most unlikely that so fragile an object as the libation-tray can have been long in use, and we now understand the direction of artistic evolution in L. B. much better than we did eight years ago.

<sup>12</sup> See *Syria*, XII, Pl. VIII, and especially XIV, Pl. XVI; Friedrich, *Der Alte Orient* 33, Pl. I: 2, II: 3.

<sup>13</sup> *Syria*, XVIII, Pl. XVII.

<sup>14</sup> Cf. ILN, Oct. 23, 1937; BASOR, 68, pp. 24 f. The Abīrām sarcophagus, from about 1100 B. C., already belongs to a new Canaanite artistic period.

<sup>15</sup> For my point of view see JAOS 56, 136 (cf. V. Müller, JAOS 58, 146 f.).

two spiral ringlets framing her face and resting on her shoulders, without a tiara, holding two lily stalks in her upraised hands.<sup>16</sup> This is represented by Pl. 25: 1 — 28: 2 (No. 474), 2 — 28: 1 (No. 700), 3 — 28: 3<sup>17</sup> (No. 631), 4 — 28: 4 (No. 690), 5 — 28: 5 (No. 701); 26: 1 — 27: 1 (No. 1409), 2[?] (No. 1283), 27: 5 (No. 2280)—seven certain pieces. This type is very common in Palestinian sites of L. B.; it goes back to a Mesopotamian terra-cotta plaque of similar type familiar in Babylonia during the First Dynasty of Babylon (twentieth-seventeenth centuries B. C.), but has been influenced in details of the coiffure by Egyptian fashion in the Middle Empire. The type was borrowed by Egyptians of the New Empire, who applied to her the Canaanite designation *Qdš*, probably pronounced *Qudshu* (lit. "holiness of . .").<sup>18</sup> Second we may mention the goddess of the feather crown (Pl. 26: 3 — 27: 2 [No. 1408], 5 — 27: 4 [No. 1469]), who differs from the *Qudshu* type mainly in the possession of a tiara of feathers,<sup>19</sup> as well as in the form of her coiffure. The latter was evidently derived from the same Mesopotamian origin, but reached the Canaanites through some East-Syrian cult-prototype instead of probably through Byblus.<sup>20</sup> The goddess of the feather head-dress is apparently new to Canaanite iconography, though it is quite possible that there are unpublished examples which I have not seen. A third type is represented by a terra-cotta mould, S. N. 1470 (Pl. 27: 3), drawn from a plasticine impression Pl. 26: 4. As shown in the *Mélanges Dussaud*, this type is directly connected with a Hyksos type known from Egypt, in which we find the same circle of tattoo marks around the navel, together with the same bushy locks and hanging arms. The specimen from our site was found in C débris and may, therefore, actually go back to the end of period D. A fourth type is represented by Pl. 27: 6 (No. 1788), unhappily photographed upside down. The torso belongs to a nude female holding her two breasts in her hands; around her neck there seems to be a serpent, which rises from her back, comes over her right shoulder, and winds around her neck. In view of the fragmentary condition of this piece it would be unwise to lay any stress upon this

<sup>16</sup> Cf. APB 95 f.; Galling, BRL 230 ff.

<sup>17</sup> This example is painted with bands of black, perhaps reflecting original tattooing or painting on the body.

<sup>18</sup> I suggest that *Qudshu* is really elliptic for *qudshu Ba'alti*, *qudshu 'Ashtarti*, etc., like Sumerian *kū Innini*, *kū G.A-TUM-DUG*, etc.

<sup>19</sup> Cf. provisionally APB 96 f., JPOS XI, 118 f. I no longer hold that the fluted tiaras are skeuomorphic alterations of the feather crown, though this development is quite possible in certain cases.

<sup>20</sup> For the Byblian origin of the *Qudshu* type cf. especially my remarks in *Mélanges Dussaud*, which supersede the brief discussion in ZAW, 1929, 7 f.

feature.<sup>21</sup> The remaining figurines in Pl. 25-28 belong to strata B and A, which have been briefly discussed elsewhere,<sup>22</sup> and will be treated in Vol. III of the present publication; they are included here for the practical purpose of keeping completed plates intact.

79. Not many scarabs were discovered in stratum C. Illustrations are TBM I, Fig. 7: 1 (p. 38) and Fig. 9 (p. 51), from the 1930 campaign, and below, Pl. 32: 4-6, 11 (from 1932); Pl. 32: 9-10 are the two sides of a small plaque of scaraboid type, and TBM I, Fig. 7: 2 is a scaraboid. Unfortunately, all were discovered in débris and may only be used with caution for dating the successive phases of stratum C. To judge from context alone, the oldest would be the steatite scarab of Tuthmosis IV (Pl. 32: 5), which was found in C<sub>1</sub> débris (SE 23) containing both D and C sherds, the latter predominating. The inscription reads *Mn-hprw-r' tt-mn(w)*, "Tuthmosis IV, image of Amun."<sup>23</sup> Tuthmosis IV reigned 1423-1413 B.C. (Borchardt), and since his scarabs were not copied in later times as were those of Tuthmosis III, we may consider his reign as providing a reasonably secure date in C<sub>1</sub>, the first phase of the L. B. occupation at our site. The steatite scarab illustrated Pl. 32: 11 comes from mixed D-C débris; its inscription is amuletic: *htp* (peace) over *'nb dd w's*, "life, duration, prosperity." The device and the type of hatched *nb* ("totality, all") at the bottom suggest the Eighteenth Dynasty, preferably its earlier part. Pl. 32: 6 (steatite) belongs to a type common in the Nineteenth Dynasty; cf. the similar examples listed by Rowe, CES, Nos. 754-768, all of which are attributed by him to Dyn. XIX. The inscription is a corrup-

<sup>21</sup> This piece has been overlooked in my treatment of the plaques and figurines in *Mélanges Dussaud* and so must be discussed more fully here (note that it is photographed upside down). The fact that it is a plaque and not a figurine separates it at once from the large group of figurines of the mother-goddess holding her breasts (cf. especially May and Engberg, *Material Remains of the Megiddo Cult*, Pl. XXXI and discussion opposite), which were certainly in vogue during the early L. B. The position of the arms equally distinguishes it from the plaque form of the goddess with the fluted tiara, found at Gezer (G III, Pl. CCXX: 16, 17, 19). Our parallels are rather with G III, Pl. CCXX: 11, 15, 21 (?), CCXXI: 5. The last mentioned plaque, where the goddess with the Hathor locks holds her breasts, while she is framed by the two lily stalks, is particularly likely to resemble ours. For the serpents see especially the Egyptian representations of *Qdš*, in which the goddess sometimes holds serpents instead of lilies (AOB, Figs. 271-2, 276). In a specimen found by Grant at Beth-shemesh Qudshu has a serpent wound around her neck, though apparently in a different position from ours; see Grant, *Annual*, IX, 10, *Beth-Shemesh*, p. 35.

<sup>22</sup> See especially ZAW, 1929, 13 (on Pl. 28: 8), JPOS XI, 123 and APB 109 f. (on Pl. 26: 6-10), *Mélanges Dussaud*.

<sup>23</sup> Good parallels are found in Rowe, CES, No. 535, and in Petrie, *Scarabs and Cylinders*, XXX, *Tehutmes IV*: No. 8.

tion of '*mn-r<sup>a</sup> nb* . . . , "Amun-Rê lord of . . ." This scarab was found in C débris of uncertain date. Pl. 32: 4 (steatite) was discovered in débris from the end of C, containing both C and B sherds. It closely resembles Rowe, CES, Nos. 702-5, all of which represent the falcon-headed sun-god holding a uraeus in his left hand, standing on the sign *nb*; Rowe refers all of them to Dyn. XIX. The beautiful scarab of Amenophis III already published<sup>24</sup> was found just below a great mass of ash-filled earth from the destruction of phase C<sub>2</sub>; it does not prove anything directly with regard to the beginning of this phase, as was first thought, since scarabs of Amenophis III continued in use for nearly a century.<sup>25</sup> It does, however, warn us against dating the commencement of C<sub>2</sub> too late. The steatite scarab of Rameside type, showing the Pharaoh smiting down an Asiatic, already published,<sup>26</sup> belongs to a group three other examples of which have been published by Rowe, CES, Nos. 669-671. These scarabs also exhibit fragments of the name of Rameses II, and are correctly attributed by Rowe to Dyn. XIX. This scarab was found in débris of C character, just under stratum B, and since it can hardly be dated before the middle of the thirteenth century it forms a valuable indication of the time at which period C closed. The steatite scaraboid previously published, also belongs to the Nineteenth Dynasty.<sup>27</sup> A faience plaque (Pl. 32: 9-10) from the edge of the excavation in SE 13 had been referred tentatively to the Iron Age, but Dr. Ludlow Bull, whom I have consulted, prefers a date in the New Empire, probably in Dyn. XVIII, possibly in Dyn. XIX or XX. One side bears the inscription '*nh.s sb<sup>3</sup> rhy.t*, "May she live, O star of the people!"'<sup>28</sup> On the other side there is a scene showing two prisoners bound to the *zm<sup>3</sup>*-sign, symbolizing the union of Asiatics (represented by the bearded figure to the left) and Negroes (on the right) as subjects of Pharaoh. Bull writes: "The question of date is difficult. I should say that the plaque might conceivably be as early as *temp. Thut-mosé III*. . . . We have in this Museum [the Metropolitan Museum] a scarab of Thut-mosé III which reads *ntr nfr Mn-hpr-r<sup>a</sup> dy nh sb<sup>3</sup> rhy.t* (No. 26. 7. 762). In this case I think *sb<sup>3</sup> rhy.t* is

<sup>24</sup> TBM I, 38, Fig. 7: 1; cf. JPOS XI, 115, and CES, No. 552.

<sup>25</sup> Cf. my remarks, BASOR, 58, p. 12, which Rowe's material fully supports.

<sup>26</sup> TBM I, p. 51, Fig. 9, and § 71; cf. also JPOS XI, 120.

<sup>27</sup> TBM I, 38, 52.

<sup>28</sup> This interpretation is endorsed by Dr. Bull. For the optative meaning of such formulae, which are also employed as personal names, see Ranke, *Sitz. Heid. Akad. d. Wiss., Phil.-hist. Kl.*, 1936/37, No. 3, *passim*. *sb<sup>3</sup>-rhy.t* also appears as a personal name, "Star of the people," in the Bubastite period or later (Ranke, *Personennamen*, p. 303: 10), and *mdw rhy.t*, "staff of the people," *sb<sup>3</sup> t<sup>2</sup>*, "star of the land," appear as royal titles (Erman-Grapow, *Aegyptisches Wörterbuch*, II, 447, IV, 83).

an epithet of the king. We have another scarab on which the cartouche *Mn-ḥpr-r'* takes the place of the *sm<sup>3</sup>*-sign. To it, on either side, a prisoner is bound. . . . Such scaraboid plaques with inscriptions on both sides seem to begin in the XVIII. Dyn. We have here one of *temp. Thut-mosé III* (26. 7. 431) which has his name on one side and the feminine name 'nh s- 'imm on the other. However, your plaque might belong to the XIX. or XX. Dyn." (letter of Nov. 9, 1937). A broken hemi-cylindrical plaque is reproduced as Pl. 39: 26; cf. § 82 below.

80. Of the other seals from stratum C the most interesting one is figured Pl. 32: 7-8 — 33: 1-2 (reversed), a cylinder-seal of limestone. With this must be compared Pl. 33: 3-4, a broken seal-ring of limestone, with an incised scene of the same simple linear type. Note the *tête-bêche* arrangement of the human figures on the cylinder. Both come from unimpeachable C context. Excellent parallels are available from Gezer and Beth-shemesh. Macalister attributes them to Third and Fourth Semitic<sup>29</sup> and Grant assigns one example to stratum V, giving no date to the others, so far as I can see.<sup>30</sup> We can hardly be far wrong if we date our examples in the thirteenth century, and attribute all the comparable seals from Gezer and Beth-shemesh to a date between 1400 and 1000 B. C.<sup>31</sup> The other seals represented on Pl. 32 and 33 are all extremely

<sup>29</sup> See G II, 294-7, III, Pl. CC. The best examples are attributed to Third Semitic, i. e., to L. B. and the first phase of Iron I, translating Macalister's terminology into current terms. All are incised on hard limestone, generally in the form of flat or conical stamp-seals; our cylindrical type, which must be relatively early, does not seem to appear at Gezer. Good illustrations are Pl. CC: 6, 8-9, all from Third Semitic. The motive of the raan shooting an arrow at an animal appears in an example from Fourth Semitic (Pl. CC: 11), but the treatment is different from ours and presumably later. From Fourth Semitic also come good examples of the linear style (G II, 296, Fig. 438: c, and 297, Fig. 439). The linear style appears on a thirteenth-century seal (Ramesses II) from Beth-shan (Rowe, CES, S. 61, Pl. XXVIII).

<sup>30</sup> Cf. especially the four examples illustrated ASE II, Pl. XLVIII: 1 (stamp-seal said to come from stratum V, but clearly from IV), 8 (ring from stratum IV), 9 (ring), 10 (stamp seal).

<sup>31</sup> This type is also found in Late-Bronze Cyprus; Gjerstad, *The Swedish Cyprus Expedition*, I, Pl. CL: 16, offers one from a Levanto-Helladic tomb at Enkomi (L. B., precise date of cylinder uncertain, I, 573) in which the two human figures face one another, with a goat between them, and with arms held just as in our Pl. 33: 3. Mr. A. Sachs calls my attention to another Late-Bronze seal from Paraskevi in Cyprus (Ward, *Seal Cylinders of Western Asia*, p. 345, No. 1165) which exhibits two men facing one another, *tête-bêche*, with a goat in vertical position between them, in the same linear style. A seal of the same style is published by Weber, *Altorientalische Siegelbilder*, No. 161; here the men hold their arms as in our Pl. 33: 3, and one, respective two goats are placed between them in vertical position. This seal from

crude and rather uninteresting in themselves. Pl. 32:12 is a paste scaraboid with a cross-hatched decoration; 32:13 is an impression from a terra-cotta stamp-seal; <sup>22</sup> 32:14 is an impression of a terra-cotta ring; <sup>23</sup> 32:16 is an impression of a circular faience plaque without intelligible design (Pl. 39:39, § 82). Pl. 33:5-6 is a stamp-seal of limestone with criss-cross design and 33:7-8 is a large stamp of limestone with a degenerate linear pattern; both may really belong to stratum B.

81. Owing to the fact that we found comparatively few artifacts in C and hardly any in their original room-locus the description of objects will be brief. In NW 22-sub A-5, in late C context, we found two identical copper bowls, one set in the other (Pl. 31:2). Particularly noteworthy is their graceful form, in the shape of a calyx with six petals. Since they date from the thirteenth century, our pieces have chronological interest, though I know of no good parallel. On Pl. 41 are figured a number of selected copper or bronze tools and weapons from stratum C: 41:7, 20, 21b, 25 are arrow-heads of usual form; 41:21a is a javelin-head (41:20-21 a-b were found together); 41:12, 22, 23 are knives (hardly spear-heads); 41:15 is a small chisel (for No. 14 see § 60, above). Many fragments of pins and needles were found in C, but there were no toggle-pins (see § 62). Here may also be mentioned whetstones, three examples of which are shown Pl. 41:1-2(A?), 5. Their small size and the hole at one end shows that they were suspended from the girdle of a craftsman or warrior.

82. A selected group of amulets and beads from stratum C appears on Pl. 39 (unhappily a little out of focus). No. 1 is a peculiar little idol of dark stone (not identified); nose, mouth, and eyes are rudely carved and the hole for suspension passes through the two eyes. It was discovered in 22 C-8, the best-preserved room-locus in the whole of stratum C, dating from the thirteenth century. No. 2 is a characteristic Bes amulet of faience,<sup>24</sup> with the head broken

Cappadocia is considered by Weber to date from the fourth millennium, and is related by him and Matz (*Die frühlkretischen Siegel*, pp. 55-6) to a group of seal-cylinders, most of whose other examples come from Assur (dated by Weber in the fourth millennium). However this may be, there can be no doubt that the Cappadocian example resembles ours from Palestine and the two Cyprian instances much more closely than it does those from Assur. Probably from the late 15th century come three seal-cylinders from Nuzi (*Nuzi II*, Pl. 119: F-H), which represent an earlier stage of this style.

<sup>22</sup> Cf. the closely parallel stamp of soft limestone G III, Pl. CC: 5, from Third Semitic, with very similar design; ours is larger, being 5.5 cm. long as against 3.3.

<sup>23</sup> For the oval form on a coarse ring-shaped seal cf. G II, 297, Fig. 439, said to be from Fourth Semitic, i. e., from the twelfth century or later, according to our chronological rectification of Macalister's dates.

<sup>24</sup> For the composition of Egyptian faience and its mode of manufacture see especially Lucas, *Ancient Egyptian Materials and Industries* (1934), pp. 101 ff.

off; the type is common in L. B., and requires no commentary. No. 4 is a broken scarab of faience. No. 5 is a scaraboid of rock-crystal and No. 6 is a similar piece of dark-green jasper (perhaps from stratum B); No. 7 is a broken scaraboid of slate (perhaps from D). Nos. 8 and 9 belong to the Iron Age. Nos. 10 and 11 are both slate beads from clear C context. No. 12 is of yellow quartz (possibly from B). No. 13 is of terra cotta; No. 14 seems to be black glass. No. 15 is a fluted faience bead, probably from C. No. 16 is of black glass, with seven eyes. Nos. 17-23 are mostly of carnelian (except No. 18, which seems to be yellow quartz), but all (except No. 22, which comes from A) are of doubtful attribution (either B or C). No. 24 is a perforated haematite pendant. No. 25 is of faience. No. 26 is a broken amuletic plaque of faience from SE 22 C-4; it was originally hemi-cylindrical, with a symbolic representation (unclear) on the convex side and the two hieroglyphs *k3* and *m3t* on the flat side. Rowe (CES 242, S. 24; 253, S. 62-3) offers some examples of this type of seal, from the late Eighteenth and the Nineteenth Dynasty (two bear the cartouche of Ramesses II). No. 27 (possibly from B) is of bone, 5 mm. thick; through its length run three equidistant perforations. Nos. 28, 30, 33-35 are all of faience, from stratum C; No. 29, also of faience, comes from B and No. 31 from B or A; No. 32, from C, is of blue frit. Nos. 1-35 are all from the 1930 campaign, and the following Nos. 36-50 come from 1932. No. 36 is of faience with a bluish green glaze and comes from mixed C-B débris; it probably dates from the end of L. B., when figurines of Isis and Horus began to become popular in Palestine. There are no good parallels in Rowe, CES, Pl. XXX-XXXI. The broken head of Isis has been provided with a perforation running across under the ears. Nos. 38 and 39 may be either C or D; 38 is faience, and 39 is a stamped disk of faience 6 mm. thick, but the design has been nearly obliterated (see Pl. 32: 16 for impression). No. 40 is part of an Egyptian *wd3t* amulet of faience, of a type common from late L. B. until late in the Iron Age (cf. CES, Pl. XXXI, below). No. 48 is a scaraboid of light green stone, not identified. The other pieces on this plate have been described above, §§ 22 and 63.

83. Spindle-whorls still continued in use in stratum C, in similar materials, but the forms become varied and carelessly executed. Most of the whorls illustrated in Pl. 38 belong to M. B. (see above, § 64, for details of chronology and for method of use, etc.). Nos. 9, 11, 12, 19, 25, 32, 37, 38 are all of stone; No. 29 is of bone. Stone mortars of C are figured Pl. 31: 6, 8; both are of lava (coarse basalt). There seems to be a dearth of comparable published material from L. B. Flint sickle-edges were still commonly used in stratum C; characteristic examples (nearly all certainly from stratum C) are illustrated

(Pl. 45: 24-36).—Bone tools were also still used by the Canaanites of period C; illustrations are given Pl. 40: 10, 11, 13, 17, 19, 22. No 10 is a needle; No. 11 was perhaps used to fasten a cloak(?) ; the rest are all sharpened bone awls, showing little change in form when compared with older bone awls.

84. Two interesting groups of human skeletal material were found in stratum C. June 23, 1932, in the débris of SE 13, well down in stratum C, but above a deposit of mixed D-C<sub>1</sub> sherds, we found two skeletons stretched out at full length, parallel, with a third skull. Following is the description by Dr. Krause (cf. § 66, above) :

The remains of two skeletons were found side by side with the skull of a third between the thighs of the larger skeleton. The larger one was destroyed [in antiquity] above the lower lumbar vertebrae; the sacrum was found articulated with the pelvic bones. The right ilium (hip) was fairly well preserved showing rami (branches) of pubes. The left ilium was badly preserved. The true pelvic brim was quite circular but rami of pubic bones and pelvic arch were not seen. The left hip was higher than the right. The neck of the right femur was nearly at right angles with the shaft of the femur. The right femur and right tibia were well preserved. The right foot was abducted or everted, judging from position of os calcis (heel) and astragalus, the only remaining bones of the foot. The left femur was not well preserved and there were only fragments of the left tibia. The left foot was missing. On the inner side of the right femur in lower third and just above inner condyle was found a skull in a bad state of preservation. From thickness of bones and size it appears to have belonged to a young child. One mandible has very small secondary teeth. The other skeleton was of smaller stature [measured as 115 cm.]. It presented the lower third of the thorax vertebrae, the pelvis, and the lower extremities. The humerus and radius of the left upper extremity were present, but in a poor state of preservation. The iliac bones were fairly well preserved. The pubic bones were quite destroyed. The femora were well preserved. The neck of the femur forms nearly a right angle with the shaft of bone. The knees tend inward. The leg-bones were fairly well preserved. The feet were inverted with the right toes superimposed on the left. The bony prominences were small and smooth. Closer examination of the lower dorsal vertebrae shows an area of marked lipping with a large area of new bone formation, indicating probably an old low-grade inflammation.

85. In May, 1928 a number of bones were found, mixed with the sherds of a large water-jar, while the walls of C<sub>2</sub> were being removed in the area contiguous to peg SE 33 (at the NW corner of SE 33). Following is Dr. Culley's description of them :

All the bones were found within an area of one square foot and a depth of about eight inches. Many of the fragments were charred and most of the cancellous bone was very brittle. The largest piece remaining was an irregular portion of right parietal bone (8 by 10 cm.) showing parts of the frontal and parietal sutures, and ranging from 2 to 5 mm. in thickness. Ten vertebrae were found, none complete, apparently all from the cervical and dorsal regions, from 25 to 33 mm. in transverse diameter. The head and neck of a humerus, badly burned, also portions of both femora

are preserved. Many other fragments of long bones remain, unidentified except for eight portions of rib, one metacarpal, and nine phalanges. A small fragment of mandible completes the list of recognized bones. The last named includes the angle of the left jaw and suggests a senile condition. No teeth were found. The probability is that these fragments belong to an elderly person of small stature. The position of vertebrae and ribs was as of a body lying prone, but the other fragments were not related in position.

In view of the relation of the bones to a large jar, the small volume which they occupied (not over 30 by 30 by 20 cm.), and their charred and fragmentary condition, it seems probable that we have a case of cremation, the only one yet known in Bronze-Age Palestine, so far as I know. What circumstances led to so unusual a method of disposal of a body, can only be guessed.

86. As indicated in previous sections, I was at first inclined to date certain pottery and objects from stratum C too high.<sup>55</sup> This was partly due to an erroneous assumption with reference to the scarab of Amenophis III, which only proves that C<sub>2</sub> is in part later than this reign (1413-1377 B. C.), but in no way proves that it must go back to it. Another potent cause for my relatively high chronology was too implicit reliance on the chronology set by Rowe for strata V-IX at Beth-shan, which now proves to have been considerably too high.<sup>56</sup> It is true that I recognized that the Ramesside level (stratum V) "includes twelfth and eleventh century remains" (TBM I, 39) but in general I accepted his original dates with very slight modification. However, the subsequent work of FitzGerald, together with a more critical analysis of the data from Beth-shan, proves that all Rowe's dates must be revised downward from one to two centuries. Since this is exceedingly important for the chronology of L. B. in general, some justification is necessary. To save space, I shall give my results in tabular form, with references to the literature where necessary.

#### BETH-SHAN: STRATA IX-V

IX. ("Thothmes III"). Aegean and wishbone-handled ware, together with much local painted pottery of typical fourteenth-century character, as in the latest Canaanite Jericho.<sup>57</sup> Scarab of Tuthmosis III. Stela erected by *P<sup>3</sup>r<sup>1</sup>-m-hb* to the god Makal in

<sup>55</sup> E. g., above §§ 75-7 and references. In TBM I and I A the dating given for local pottery is practically always correct, but the material from other sites is often dated too high, mainly because of the supposed chronology of Beth-shan.

<sup>56</sup> See for Rowe's most recent views THBS (1930). It must be emphasized that Rowe's stratigraphical work is good and that his chronology was based on careful deductions from the evidence of scarabs and stelae, which, as we now recognize, was strangely misleading.

<sup>57</sup> The Beth-shan pottery from the "Thothmes III" level has not yet been published. I wish to thank Mr. Rowe for placing photographs of it at my disposal. For the

honor of his father, the architect '*mn-m'-pt* (Amanappa), and hardly to be dated before the end of the 14th century.<sup>39</sup>

VIII. ("Pre-Amenophis III"). Pottery like that of stratum VII. Scarabs of Tuthmosis IV and III. End of 14th century or beginning of 13th.

VII. ("Amenophis III"). Three objects with the name of Amenophis III and one with that of Hatshepsut were discovered in foundation deposits under the altar steps in this level. A signet-ring with the name Amenophis III, found under the foundation of the temple-wall, may belong to stratum VIII. These objects must be considered as ex-votos which were out of date and consequently no longer needed. Mycenaean and wishbone-handled sherds, but no base-ring ware at all (which is very significant). Painted sherds, mostly of latest L. B. type, i. e., from 13th century. The Egyptian "migdol" thus belongs to Sethos I or Ramesses II, and the royal stelae were probably set up originally in this stratum, from which they were moved to level VI and V.

VI. ("Early and Late Seti"). The limestone lintel of *R'mssw-wsr-hpš*, inscribed with the name of Ramesses III, was almost certainly erected originally in this level; see the remarks of FitzGerald, PEFQS, 1932, 138 f., 1934, 133 f., which leave little doubt on this point. The pottery is transitional, but is much more Iron I than L. B. Individual pieces and sherds belong to the 13th century, but the majority of pieces are clearly from the 12th.

V. ("Rameses II"). The pottery is typically Iron I, from the 12th to the 10th century B.C. Painted ware is almost entirely replaced by burnished. The limestone gateway which represents the latest phase of pre-Hellenistic occupation, dates from the tenth century B.C.<sup>40</sup>

The chronology of Beth-shan now agrees fully with the evidence from the three phases of the Canaanite temple of Lachish (Tell ed-Duweir).<sup>41</sup> The dates

Jericho pottery see AAA XXI, 105-116, and Pl. XXIV, XXVII-XXXIX. Garstang is entirely correct in stressing the resemblances between this Jericho pottery and that of the "Thothmes III" stratum at Beth-shan, as well as that of our C<sub>1</sub>, but most of this material should be dated in the fourteenth century instead of in the fifteenth (for Jericho cf. also my observations, BASOR, 58, pp. 11 f.).

<sup>39</sup> There seems to be external evidence for the date of *P<sub>3</sub>-r'-m-hb* (THBS 15 and Pl. 33). Since the father was an architect (*qd*), it is almost certain that the son was also. Now there is a letter in Accadian found at Boğazköy which refers twice to the scribe and physician Pareamahū (*auēlTUP-SAR auēlA-ZU*), stating each time that he was a builder (*Keilschrifturkunden aus Boghaz-köi*, III, No. 67). A king of Egypt (almost certainly Ramesses II) writes to the Hittite king, asking that Pareamahū be sent from the Hittite court to Kurunta king of Tarhuntas for the purpose of building houses. The names are phonetically identical (JEA, 1937, p. 201, note), and both belong almost certainly to Egyptian architects working in Asia. In view of the date of the other letters from Egypt found at Boğazköy, it is certain that this letter dates from somewhere in the first half of the thirteenth century. The Beth-shan stela can thus hardly be earlier than the end of the fourteenth. Of course, this argument is by no means decisive, but it does furnish an additional point in favor of a low chronology for Beth-shan IX.

<sup>40</sup> PEFQS, 1932, 138 ff.

<sup>41</sup> PEFQS, 1934, 170-175; 1936, 183-185, etc.

given by Starkey<sup>41</sup> are well supported by the objects found in the three phases and agree with the evidence of local pottery, as I can state with confidence after examining the material at the excavators' camp. The only date which must be materially rectified is that for the end of Temple III, which must now be reduced from cir. 1260 to about 1230 B. C.<sup>42</sup> This reduction practically eliminates the slight discrepancy which existed between Starkey's latest ceramic chronology for the 13th-12th centuries B. C. and my own.<sup>43</sup> It must be emphasized that the pottery of Temple III at Lachish is roughly identical with the latest L. B. pottery from stratum C.<sup>44</sup>

87. The chronology of C<sub>1</sub> must be somewhat reduced, but it seems hardly possible to obtain a precise date, since comparatively few complete or substantially intact vases of this period were discovered<sup>45</sup> and the sherds from it cannot be safely dated to any special phase of it. We have not progressed essentially beyond the state of our knowledge in the 1928 and 1930 campaigns,<sup>46</sup> as pointed out after the close of the 1932 season.<sup>47</sup> The burned deposit between C<sub>1</sub> and C<sub>2</sub> did not prove to be continuous or undisturbed enough to permit us to divide sharply between the two phases. In several places, notably in SE 23 and 24, there were superimposed foundations of C<sub>1</sub> and C<sub>2</sub>, but practically the only intact floor-levels of C<sub>1</sub> were found in SE 24 (see above, § 69). Pl. 20: b gives a selection of undoubtedly C<sub>1</sub> sherds (one or two may be D); the photograph is unfortunately poor, so it was not included in the publication of pottery from the 1932 campaign in TBM I A. Nos. 1-14 illustrate the forms of cooking pots then used; most of the rims are hard to distinguish from corresponding rims of C<sub>2</sub>. No. 15 may belong to stratum D, but was found in

<sup>41</sup> I = 1480-1420, II = 1420-1335, III = 1325-1260. Of course, I would not wish to defend any of the specific dates given, since most of them are too precise.

<sup>42</sup> Cf. BASOR, 68, 23 f.; 69, 7.

<sup>43</sup> Cf. BASOR, 48, 17, and especially 58, p. 13 and n. 8.

<sup>44</sup> Cf. BASOR 58, 13 f.

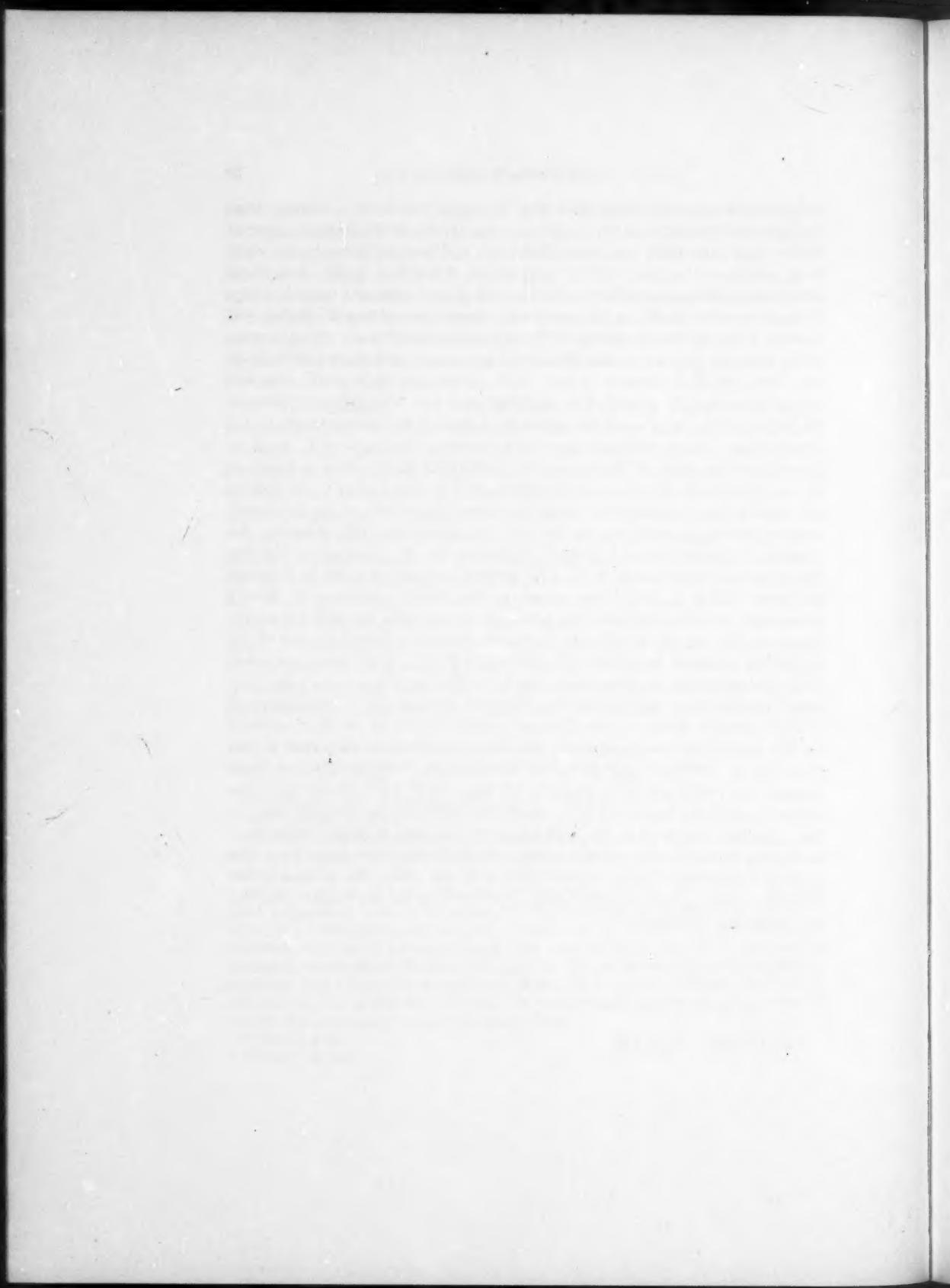
<sup>45</sup> The following numbered vases, all described and figured in TBM I A, are certainly or with high probability, judging from stratification alone, to be attributed to C<sub>1</sub>: S. N. 2339 (Pl. 16: 16, § 52), 2021 (Pl. 18: 1, § 55), 2020 (Pl. 18: 2, § 56), 2378 (Pl. 18: 5, § 59), 2564 (Pl. 18: 6, § 59), 2010 (Pl. 18: 7, § 56), 2646 (Pl. 18: 8, § 56). Unnumbered fragmentary vases of C<sub>1</sub> appear Pl. 17: 3 (SE 23 C, VII-6-32), 4 (SE 24 C, VII-13-32). Four vases found in context which might be either D or C<sub>1</sub> and which were published with the C pottery (though with reservations in the text), can now be attributed confidently to D, since the length of the gap between D and C appears to be greater than was at first thought: S. N. 2328 (I A Pl. 16: 3), 2575 (Pl. 16: 6), 2377 (Pl. 16: 13), 17: 2 (SE 24, VII-6-32). It is significant that two base-ring vases of the best type are among these few complete pieces.

<sup>46</sup> TBM I, § 48.

<sup>47</sup> TBM I A, § 51.

a C<sub>1</sub> context. No. 16 belongs to a bowl of typically C form; a simpler form of high-walled saucer is shown as No. 21. Nos. 17-20, 22-27 illustrate bases of various types, especially ring-bases, disk-bases, and bases with the characteristic L. B. centripetal bevelling (TBM I, §§ 50, 59, TBM I A, § 52). Nos. 28-34 are characteristic painted sherds; No. 33, with glossy paint on a burnished slip, belongs to early L. B., as is now certain from observations at Bethel and Lachish. Nos. 35-36 are sherds of "wishbone-handled" ware, which is relatively scarce in early L. B., and Nos. 37-43 are examples of characteristic base-ring ware, which is common in early L. B., and ceases to be used before the end of the period. In general it is clear that there was little difference between the pottery of C<sub>1</sub> and C<sub>2</sub> and the apparent absence of Mycenaean sherds in the former must remain our most important criterion. The end of C<sub>1</sub> must be placed after the reign of Tuthmosis IV (1423-1413 B. C.), since a scarab of his was discovered well down in the débris of this phase (§ 79). In view of the ceramic data I should now descend to about the middle of the fourteenth century instead of remaining in the reign of Amenophis III, about the beginning of the century, as I formerly wished to do. My tendency to date the introduction of Mycenaean (L. H. III) pottery into ordinary use in Palestine too early (TBM I, § 60) was caused by too implicit reliance on Rowe's chronology, but since the latter has proved to be too high, we must reduce the date from the end of the fifteenth century to about the second quarter of the fourteenth (reign of Amenophis IV, 1377-1360 B. C.). While there is a possibility that we should go down to an even later date for the end of C<sub>1</sub> the clear resemblance between our C<sub>1</sub> and the pottery of stratum IX at Beth-shan and of L. B. Jericho warns against too low a date. There is no clear evidence for the date of the reoccupation of the site after the close of period D, but there was a relatively long period of abandonment,<sup>48</sup> which seems to have spanned the entire period of Megiddo IX (see above, § 67), so we may provisionally place the beginning of C<sub>1</sub> about the middle of the fifteenth century. The city wall—or at least the wall known to us from a single fragment—belongs to C<sub>2</sub> in the fourteenth century. Most of the whole vases from this stratum belong to the very end of C<sub>2</sub>, that is, not before the middle of the thirteenth century, and probably about 1230 B. C., when the neighboring city of Lachish was destroyed.

<sup>48</sup> Cf. APB 90 ff.; above, § 70.



### SERIAL LIST OF BRONZE-AGE OBJECTS

This list is not exhaustive, but it includes the more interesting pieces not published in TBM I-II, which are accordingly provided with brief descriptions in Col. III. Col. III also contains record of the day when each object was found. Nos. 150-191 come from the season of 1926, Nos. 411-838 from 1928, Nos. 840-1643 from 1930, Nos. 1673-2668 from 1932. I, IA, II in Cols. IV-V are Vols. of TBM; the paging in I A follows *Annual XIII*. E loci have same numbers as sub-D loci in Pl. 50.

| <i>S. N.</i> | <i>Provenience</i>       | <i>Observations</i>                   | <i>Illustration</i>               | <i>Index</i> |
|--------------|--------------------------|---------------------------------------|-----------------------------------|--------------|
| 150          | SE 51 sub A-8            | C level (26-V-24)                     | I 44: 3                           | I §62        |
| 169          | "                        | G level? (26-V-26)                    | I 44: 14                          | I §42        |
| 185          | East Cave                | 26-V-29                               | I 49: 7                           | I §64        |
| 187          | "                        | "                                     | I 45: 22                          | I §50        |
| 188          | "                        | "                                     | I 45: 23                          | "            |
| 189          | "                        | "                                     | I 45: 24                          | "            |
| 190          | "                        | "                                     | I 45: 20                          | "            |
| 191          | West Gate,<br>sub Iron I | With 2 other faience sherdz<br>(V-29) | I 49: 3                           |              |
| 411          | East Cave                | 28-IV-17                              | I 44: 5                           | I §57        |
| 422          | "                        | IV-19                                 | I 14: 3; I 48: 7                  | I §59        |
| 432          | "                        | IV-21                                 | I 15: 1                           | I §61        |
| 434          | "                        | "                                     | I 50: 1                           | I §50        |
| 440          | "                        | IV-23                                 | I 14: 9; I 44: 4                  | I §62        |
| 448          | "                        | IV-24                                 | I 44: 2                           | I §58        |
| 474          | "                        | Pierced for suspension (IV-24)        | II 25: 1;<br>II 28: 2             | II §78       |
| 492          | "                        | IV-26                                 | I 50: 2                           | I §52        |
| 493          | "                        | "                                     | I 50: 4                           | "            |
| 514          | "                        | Period doubtful: C or B (IV-28)       | I 14: 7; I 50: 6                  | I §§59; 93   |
| 530          | "                        | V-1                                   | I 46: 20                          | I §67        |
| 541          | SE 32 B débris           | V-2                                   | II 41: 7                          | II §81       |
| 542          | East Cave                | "                                     | I 50: 3                           | I §50        |
| 545          | SE 22 C débris           | "                                     | I 14: 4; I 48: 8                  | I §59        |
| 573          | East Cave                | V-3                                   | I 47: 8                           | I §50        |
| 589          | SE 20 A-3                | Iron II? (V-5)                        | I 44: 1                           | I §56        |
| 631          | S. of Silo 5             | Mixed C-B débris (V-8)                | II 25: 3;<br>II 28: 3             | II §78       |
| 639          | SE 33 C-3                | Angle of walls (V-9)                  | I 47: 3                           | I §50        |
| 640          | "                        | V-9                                   | I 14: 6; I 48: 9                  | I §59        |
| 641          | SE 33 C?                 | Stratum D? (V-9)                      | I 42: 11                          | I §32        |
| 642          | SE 33 C-3                | V-9                                   | I 47: 5                           | I §50        |
| 643          | "                        | "                                     | I 47: 2                           | "            |
| 651          | SE 33 C débris           | V-10                                  | II 41: 12                         | II §81       |
| 652          | SE 33 D-C débris         | "                                     | I, p. 32, fig. 5: 6;<br>II 28: 29 | II §52       |
| 653          | SE 33 C-2                | "                                     | I 14: 5                           | I §59        |

| S. N.  | Provenience      | Observations          | Illustration                      | Index            |
|--------|------------------|-----------------------|-----------------------------------|------------------|
| 654    | SE 33 C          | V-10                  | I 43: 14                          | I §50            |
| 657    | SE 32, by D wall | D, not C! (V-10)      | I 14: 8                           | I §58            |
| 667    | SE C débris      | V-11                  | I 47: 1                           | I §50            |
| 690    | SE 33 C          | V-12                  | II 25: 4;<br>II 28: 4             | II §78<br>II §80 |
| 692    | SE 23 D-C débris | 12+ pieces (V-12)     | II 42: 12                         | II §80           |
| 700    | SE 23 C          | V-14                  | II 25: 2;<br>II 28: 1             | II §78           |
| 701    | "                | "                     | II 25: 5;<br>II 28: 5             | "                |
| 702    | SE 33 C          | "                     | II 41: 15                         | II §81           |
| 716    | SE 33 C (D?)     | Mxm. th. 7 mm. (V-17) | II 41: 10                         | II §62           |
| 717    | "                | "                     | II 41: 14                         | II §60           |
| 725    | SE 22 D-2        | V-10                  | II 37: a                          | II §§55; 56; 57  |
| 726    | SE 32 D          | "                     | I 13: 3                           | I §39A           |
| 727    | SE 22 D-1        | "                     | II 21: a; II 22                   | II §49           |
| 729    | SE 23 D-3        | V-21                  | II 31: 1                          | II §54           |
| 731    | SE 22 D-2        | "                     | I, p. 32, fig. 5: 5;<br>II 28: 10 | II §52           |
| 732    | "                | "                     | II 41: 9                          | II §59           |
| 733a-d | "                | V-22                  | II 37: a                          | II §§55; 57      |
| 734    | "                | "                     | "                                 | II §§55; 57; 58  |
| 735    | SE 22 D-3        | "                     | "                                 | " "              |
| 737    | SE 23 D-3        | "                     | "                                 | II §55           |
| 739    | "                | "                     | II 41: 8                          | II §59           |
| 741    | "                | "                     | I 8: 2                            | I §38            |
| 742    | "                | "                     | I, p. 32, fig. 5: 1;<br>II 28: 13 | I §45; II §52    |
| 744    | SE 22 D-1        | V-23                  | II 41: 4                          | II §§44; 59; 65  |
| 745    | SE 33 D-1        | "                     | II 41: 3                          | II §59           |
| 746    | "                | "                     | I 9: 7; I 42: 5                   | I §33            |
| 747    | SE 23 D-3        | Bone (V-23)           | II 37: a                          | II §55           |
| 749    | "                | V-21                  | I 42: 2                           | I §40            |
| 754    | SE 33 D-4        | D, not C! (V-24)      | I 43: 11                          | I §50            |
| 755    | SE 32 D-2        | V-24                  | I, p. 32, fig. 5: 2;<br>II 28: 14 | I §50; II §52    |
| 757    | SE 33 D-4        | "                     | II 41: 6                          | II §59           |
| 758    | "                | "                     | I 8: 4; I 43: 3                   | I §38            |
| 759    | SE 33 D-2        | "                     | I 9: 8; I 42: 12                  | I §32            |
| 760    | "                | "                     | I 9: 9; I 42: 13                  | "                |
| 761    | "                | "                     | I 9: 10; I 42: 9                  | "                |
| 762    | "                | "                     | I 9: 6; I 42: 4                   | I §33            |
| 763    | "                | "                     | I 9: 5; I 42: 6                   | "                |
| 764    | SE 32 D-2        | V-25                  | I 44: 15                          | I §41            |
| 769    | "                | "                     | II 41: 13                         | II §61           |
| 773    | "                | "                     | I, p. 32, fig. 5: 3;<br>II 28: 11 | I §45; II §52    |

| S. N. | Proveniences   | Observations  | Illustration            | Index |
|-------|----------------|---|-------------------------|-------|
| 774   | SE 32 D-2      | V-25  | I, p. 32, fig. 5: 4;    |       |
| 775   | SE 22 D-1      | "   | II 28: 12 I §45; II §52 |       |
| 782   | SE 33 D-1      | "   | II 41: 11 II §§44; 59   |       |
| 783   | SE 33 D-2      | V-24  | I 42: 8 I §33           |       |
| 784   | "              | "   | I 44: 6 I §35           |       |
| 785   | "              | "   | I 44: 8 "               |       |
| 786   | "              | "   | I 44: 7 "               |       |
| 787   | "              | "   | I 42: 14 I §32          |       |
| 788   | SE 33 D-4      | "   | I 8: 5; I 44: 13 I §36  |       |
| 789   | SE 32 D-2      | "   | I 44: 10 "              |       |
| 790   | "              | "   | I 44: 12 "              |       |
| 795   | SE 23 D-1      | V-26  | I 9: 3; I 42: 3 I §40   |       |
| 796   | "              | "   | I 9: 2; I 42: 1 "       |       |
| 797   | SE 33 D-1      | "   | I 8: 3 I §43            |       |
| 798   | SE 32 D-2      | "   | I 9: 4; I 42: 10 I §31  |       |
| 799   | "              | Ostrich egg, broken into scores of pieces, partly reconstructed to show reticulated design (V-26) | —                       | —     |
| 800   | "              | 3 legged lava mortar, diam. 28 cm., ht. 7-9 cm. (V-26)  | —                       | —     |
| 801   | "              | V-26  | I 8: 1 I §30            |       |
| 802   | SE 33 D-1      | "   | I 44: 9 I §35           |       |
| 810   | SE 33 D-4      | "   | I 42: 7 I §33           |       |
| 833   | SE 22 D-1      | V-19  | I 41: 13 I §28          |       |
| 834   | "              | "   | I 41: 14 "              |       |
| 835   | "              | "   | I 41: 15 "              |       |
| 836   | "              | "   | I 41: 12 "              |       |
| 837   | "              | "   | I 41: 10 "              |       |
| 838   | "              | "   | I 41: 16 "              |       |
| 840   | SE 32 D débris | 30-VI-20  | I 43: 2 I §40           |       |
| 842   | " "            | "   | I 43: 4a I §34          |       |
| 843   | " "            | "   | I 43: 7 I §32           |       |
| 844   | " "            | "   | I 43: 5 "               |       |
| 848   | SE 32, E drain | Terra-cotta leg of bull, broken above knee, burnished (VI-23)                                     | —                       | —     |
| 891   | SE 33 G or F   | VI-28   | II 43: a and c II §32   |       |
| 900   | SE 32 F        | VI-30   | I 41: 7 I §25           |       |
| 901   | SE 32 E        | VI-28   | I 41: 8 I §27           |       |
| 907   | "              | "   | I 41: 9 "               |       |
| 958   | SE 32 H        | VII-5   | II 40: 16 II §22        |       |
| 963   | SE 22 C-8      | VII-7   | II 38: 38 II §§64; 83   |       |
| 964   | "              | "   | II 39: 32 II §82        |       |
| 1015  | SE 33 H        | VII-9   | II 40: 14 II §22        |       |
| 1166  | SE 33 G-2      | VI-30   | I 41: 3 I §§15; 20      |       |
| 1167  | "              | "   | I 41: 5 " "             |       |

| S. N.  | Provenience         | Observations                           | Illustration          | Index       |
|--------|---------------------|--|-----------------------|-------------|
| 1168-9 | SE 33 J Cave        | Sherds with potter's marks<br>(VII-14) | cf. IA §3             | —           |
| 1170   | SE 33 J             | " (VII-12)                             |                       |             |
| 1175   | SE débris           | C or B (VII-15)                        | II 39: 21             | II §82      |
| 1177   | SE 12 B (C?)        | VII-J7                                 | II 39: 27             | "           |
| 1213   | SE 22 B             | Bone (C?) (VII-18)                     | II 38: 8              | II §64      |
| 1216   | SE 24 B             | Stone (VII-18)                         | II 38: 13             | "           |
| 1283   | SE 24 C             | VII-22                                 | II 26: 2              | II §78      |
| 1325   | SE 23 C             | VII-23                                 | II 40: 13             | II §§65; 83 |
| 1339   | SE 22 C débris      | VII-24                                 | II 42: 13             | II §62      |
| 1340   | SE 13 B-1 (sub)     | "                                      | II 39: 5              | II §82      |
| 1341   | SE 22 B-4 (sub)     | "                                      | II 39: 25             | "           |
| 1343   | SE 4 B-1 (sub)      | "                                      | II 30: 12             | "           |
| 1344   | SE 22 B-4 (sub)     | "                                      | II 39: 30             | "           |
| 1354   | SE 3 C              | VII-25                                 | I 47: 9               | I §62       |
| 1355   | SE 22 B-4 (sub)     | VII-24                                 | II 39: 26             | II §82      |
| 1356   | SE 14 B-5           | B, not C! (VII-24)                     | I 47: 7               | I §50       |
| 1366   | SE 13, S. W. of C-1 | VII-25                                 | I, p. 38, fig. 7: 1   | I §49       |
| 1367   | SE 3 C débris       | "                                      | II 24: a and b        | II §§75; 76 |
| 1371   | SE 14 C or B        | VII-26                                 | II 38: 25             | II §§64; 83 |
| 1372   | SE 13 C or B        | "                                      | II 39: 23             | II §82      |
| 1373   | "                   | "                                      | II 39: 13             | "           |
| 1374   | SE 4 C              | "                                      | II 39: 24             | "           |
| 1378   | SE 13 C             | VII-28                                 | II 41: 23             | II §81      |
| 1381   | SE 23 B (C?)        | Bone (VII-28)                          | II 38: 23             | II §64      |
| 1389   | SE 23 C             | VII-29                                 | II 41: 1              | II §81      |
| 1394   | SE 22 C-8           | "                                      | II 41: 25             | "           |
| 1396   | SE 23 C             | "                                      | II 40: 11             | II §83      |
| 1397   | SE 22 C-8           | "                                      | II 39: 1              | II §82      |
| 1398   | SE 22 C-9           | "                                      | II 39: 4              | "           |
| 1399   | SE 23 C             | "                                      | II 41: 20 & 21        | II §81      |
| 1403   | SE 12 C             | "                                      | I 15: 12              | I §61       |
| 1408   | NW 21 sub A-13      | Débris below street (VII-29)           | II 26: 3;<br>II 27: 2 | II §78      |
| 1409   | SE 23 C             | VII-30                                 | II 26: 1;<br>II 27: 1 | "           |
| 1413   | SE 22 C-9           | VII-29                                 | I 47: 4               | I §50       |
| 1415   | SE 22 C-7           | "                                      | I 48: 1               | I §59       |
| 1416   | SE 22 C             | VII-31                                 | I 48: 3               | "           |
| 1417   | SE 22 C-7           | VII-29                                 | I 48: 5               | "           |
| 1418   | SE 22 C-9           | "                                      | I 48: 4               | "           |
| 1419   | SE 12 C             | VII-31                                 | I 48: 6               | "           |
| 1421   | SE 3 C              | VII-30                                 | II 41: 22             | II §81      |
| 1423   | SE 12 C             | "                                      | II 40: 17             | II §§65; 83 |
| 1426   | "                   | "                                      | II 40: 10             | " "         |
| 1428   | SE 23 C             | "                                      | II 39: 11             | II §82      |
| 1429   | SE 3 D              | VII-26                                 | I 13: 27              | I §37       |

| S. N. | Provenience  | Observations      | Illustration          | Index       |
|-------|--------------|-------------------|-----------------------|-------------|
| 1440  | SE 12 C or B | VII-31            | II 39: 35             | II §82      |
| 1441  | SE 12 C      | "                 | II 41: 5              | II §81      |
| 1442  | SE 13 C      | "                 | II 40: 19             | II §§65; 93 |
| 1447  | SE 22 C-5    | "                 | I 47: 15              | I §§58; 68  |
| 1448  | "            | "                 | I 43: 13              | I §50       |
| 1449  | SE 12 C      | "                 | I 47: 6               | "           |
| 1451  | "            | "                 | I, p. 38, fig. 7: 2   | I §71       |
| 1459  | SE 13 C      | VIII-1            | II 40: 22             | II §§65; 83 |
| 1460  | SE 24 C      | "                 | II 38: 37             | II §§64; 83 |
| 1461  | "            | "                 | II 38: 9              | " "         |
| 1463  | SE 22 C      | "                 | II 39: 16             | II §82      |
| 1466  | SE 23 C      | "                 | II 33: 7 & 8          | II §80      |
| 1469  | SE 22 C-8    | "                 | II 26: 5;<br>II 27: 4 | II §78      |
| 1470  | SE 23 C (D?) | "                 | II 26: 4;<br>II 27: 3 | "           |
| 1473  | SE 22 C-8    | VIII-2            | II 39: 14             | II §82      |
| 1474  | SE 12 C      | "                 | II 39: 34             | "           |
| 1476  | SE 22 C-8    | "                 | II 39: 28             | "           |
| 1479  | SE 23 C      | "                 | II 38: 29             | II §§64; 83 |
| 1480  | SE 3 débris  | C(?) (VIII-2)     | I 9: 1                | I §40       |
| 1482  | SE 24 C      | VIII-2            | II 38: 21             | II §64      |
| 1484  | "            | "                 | II 39: 10             | II §82      |
| 1485  | "            | "                 | II 38: 19             | II §§64; 83 |
| 1488  | SE 12 C or B | "                 | II 38: 12             | " "         |
| 1489  | SE 24 C      | "                 | II 33: 3 & 4          | II §80      |
| 1493  | SE 23 C      | VIII-4            | II 39: 2              | II §82      |
| 1500  | SE 22 C-8    | VIII-2            | I 14: 2;<br>I 47: 14  | II §67      |
| 1504  | SE 23 C      | VIII-4            | I, p. 51, fig. 9      | I §71       |
| 1540  | SE 24 C or B | VIII-6            | II 33: 5 & 6          | II §80      |
| 1548  | SE 22 D-6    | VIII-7            | II 44: 7              | II §65      |
| 1549  | "            | "                 | II 42: 14             | II §62      |
| 1551  | NW 22 A-4    | A? (VIII-7)       | II 41: 2              | II §81      |
| 1557  | SE 14 C      | VIII-6            | I 43: 10              | I §60       |
| 1571  | SE 22 D-8    | VIII-8            | II 38: 27             | II §64      |
| 1572  | "            | "                 | II 38: 28             | "           |
| 1573  | SE 22 D-5    | "                 | II 40: 20             | II §65      |
| 1574  | "            | "                 | II 40: 18             | "           |
| 1577  | SE 22 D-8    | VIII-9            | I, p. 34, fig. 6      | I §45       |
| 1578  | "            | "                 | II 21: b              | II §55      |
| 1579  | "            | 7 whorls (VIII-9) | II 38: 1-7            | II §64      |
| 1580  | "            | VIII-9            | II 41: 24             | II §§44; 59 |
| 1583  | "            | "                 | II 39: 3              | II §63      |
| 1584  | SE 22 D      | "                 | II 40: 12             | II §62      |
| 1587  | SE 22 D-4    | VIII-11           | II 42: 15             | II §§44; 62 |

| S. N. | Provenience        | Observations  | Illustration                  | Index      |
|-------|--------------------|---|-------------------------------|------------|
| 1588  | SE 22 D-2          | VIII-8  | I 43: 1                       | I §40      |
| 1595  | SE 22 D-9          | VIII-11   | II 40: 15                     | II §65     |
| 1596  | SE 22 D-8          | "   | II 38: 30                     | II §64     |
| 1597  | SE 22 C-8          | VIII-2  | I 47: 10                      | I §58      |
| 1598  | SE 22 C-9          | VIII-11   | II 38: 11                     | II §64; 83 |
| 1599  | SE 22 C-8          | "   | I 47: 12                      | I §53      |
| 1606  | SE 22 D-8          | VIII-9  | I 43: 9                       | I §35      |
| 1609  | SE 22 C            | VIII-4  | I 47: 13                      | I §54      |
| 1610  | SE 13 C            | VII-28  | I 43: 12                      | I §50      |
| 1611  | SE 22 D-7          | VIII-8  | I 43: 4                       | I §38      |
| 1613  | SE débris (C or D) | VIII-13   | II 39: 7                      | II §82     |
| 1615  | SE 23 C            | VIII-1  | I 47: 11                      | I §55      |
| 1622  | SE 22 D-8          | VIII-9  | I 43: 6                       | I §34      |
| 1625  | SE 23 C            | VIII-11   | I 48: 2                       | I §59      |
| 1627  | SE 22 D-8          | Storage jar; ht. 77.4 cm., mxm.<br>diam. body 58 cm., diam. rim<br>14.6 cm. (VIII-11) | —                             | —          |
| 1628  | *                  | VIII-11   | I 12: 12;<br>I 41: 11         | I §37      |
| 1640  | SE 13 C            | VIII-15   | II 32: 7 & 8;<br>II 33: 1 & 2 | II §77; 80 |
| 1641  | SE 22 D-4          | "   | II 37: b                      | II §56; 57 |
| 1642  | SE 3C              | "   | II 23                         | II §75; 77 |
| 1643  | SE 22 C-4          | VII-24  | I 14: 1                       | I §57      |
| 1673  | SE 14 D            | 32-VI-17  | II 27: 8                      | II §50     |
| 1674  | SE 4 C             | "   | II 32: 14                     | II §80     |
| 1675  | SE 4 D-1           | VI-20   | II 29: 8                      | II §52     |
| 1676  | SE 14 C            | VI-21   | II 32: 6                      | II §79     |
| 1682  | SE 13 C            | "   | II 39: 40                     | II §82     |
| 1699  | SE 4 D-1           | "   | II 36: 3-7                    | II §56; 57 |
| 1707  | SE 13 D or C       | VI-22   | II 42: 2                      | II §62     |
| 1708  | " "                | "   | II 41: 16                     | II §59     |
| 1709  | SE 2 C or B        | "   | II 39: 36                     | II §82     |
| 1712  | SE 2 C (B?)        | "   | II 32: 4                      | II §79     |
| 1715  | SE 13 D or C       | "   | II 35: 12                     | II §56; 57 |
| 1722  | SE 12 D or C       | VI-23   | II 41: 17                     | II §69     |
| 1723  | SE 12 D débris     | VI-24   | II 29: 12                     | II §52     |
| 1727  | SE 14 C            | VI-20   | IA 18: 12                     | IA §57     |
| 1729  | SE 13 D            | VI-24   | II 39: 48                     | II §82     |
| 1731  | "                  | "   | II 30: 4;                     |            |
|       |                    |   | II 31: 3                      | II §54     |
| 1733  | "                  | "   | II 40: 2                      | II §60     |
| 1738  | SE 13 C            | VI-21   | IA 16: 4                      | IA §52     |
| 1750  | SE 13 D            | VI-25   | II 29: 15                     | II §52     |
| 1765  | SE 3 D-1           | VI-27   | II 44: 1                      | II §65     |
| 1767  | SE 3 C             | "   | IA 16: 7                      | IA §52     |
| 1777  | SE 13 D            | VI-26   | IA 15: 2                      | IA §45     |

| S. N.   | Provenience     | Observations  | Illustration                       | Index           |
|---------|-----------------|---|------------------------------------|-----------------|
| 1778    | SE 3 C          | Bowl like 1782, but with everted rim; 20 x 6.25 cm. (VI-27)                               | —                                  | —               |
| 1782    | SE 3 C          | VI-27   | IA 16: 11                          | IA §52          |
| 1783    | SE 13 D         | VI-28   | II 36: 21                          | II §§56; 57     |
| 1784    | SE 14 D         | VI-17   | IA 12: 14                          | IA §41          |
| 1787    | SE 23 D         | VI-28   | II 38: 35                          | II §64          |
| 1788    | SE 13 west      | C or D (VI-27)  | II 27: 6                           | II §78          |
| 1790    | SE 33 D         | VI-28   | II 35: 14                          | II §§56; 57     |
| 1792    | SE 13 D or C    | "   | II 29: 13                          | II §52          |
| 1802    | SE 3 D-1        | "   | IA 15: 3                           | IA §45          |
| 1806    | SE 13 D         | VI-27   | II 30: 6;<br>II 31: 4              | II §54          |
| 1807    | SE 13 D or C    | VI-28   | II 44: 4                           | II §65          |
| 1816    | SE 3 D          | VI-29   | IA 15: 16                          | IA §40          |
| 1823    | SE 24 D or C    | Terra cotta horn of ox, painted and burnished, lghth. 4.4 cm., mmx. diam. 1.8 cm. (VI-30) | —                                  | —               |
| 1826    | SE 12 D-1 (sub) | VI-30   | II 36: 22 & 25                     | II §§47; 56; 57 |
| 1827    | SE 3 D-2        | VI-29   | IA 12: 9;<br>IA 23: 4              | IA §40          |
| 1832    | SE 12 D-1 (sub) | 6 pieces (VII-1)  | II 35: 7 & 13;<br>II 36: 17-19     | II §§56; 57     |
| 1833    | SE 13 D-8 (sub) | VI-30   | IA 12: 3                           | IA §40          |
| 1838    | SE 3 D-1        | VI-29   | IA 12: 5;<br>IA 23: 10             | "               |
| 1840    | SE 13 D         | VII-1   | IA 15: 20; IA,<br>p. 87, fig. 3: a | IA §48          |
| 1843    | NW 22 sub A-11  | M. B.-II context (VII-1)  | II 38: 36                          | II §64          |
| 1844    | "               | " "   | II 38: 34                          | "               |
| 1849    | SE 13 D-4 (sub) | VI-30   | IA 9: 8; IA,<br>p. 82, fig. 2: f   | IA §37          |
| 1850    | " "             | "   | IA 9: 10; IA,<br>p. 82, fig. 2: d  | "               |
| 1851    | " "             | "   | IA 9: 11; IA,<br>p. 82, fig. 2: e  | "               |
| 1853    | SE 23 E or D    | VII-1   | II 41: 18                          | II §59          |
| 1855    | SE 14 C         | VI-25   | IA 16: 14                          | IA §52          |
| 1863    | SE 3 D-1 (sub)  | VII-1   | IA 10: 9                           | IA §34          |
| 1864    | SE 14 D         | VI-27   | IA 13: 5                           | IA §42          |
| 1866    | SE 13 D-5 (sub) | VII-2   | IA 10: 12; IA<br>p. 87, fig. 3: f  | IA §35          |
| 1868    | SE 13 sub D-1   | "   | II 39: 47                          | II §63          |
| 1869    | SE 13 street    | S. of SE 13 D-6 (VII-2)   | II 32: 11                          | II §70          |
| 1870a-c | SE 13 sub D-1   | VII-2   | II 39: 41-43                       | II §63          |
| 1871    | SE 13 D-8       | "   | II 39: 37                          | "               |
| 1872    | SE 23 D         | "   | II 32: 15                          | II §54          |

| <i>S. N.</i> | <i>Provenience</i> | <i>Observations</i> | <i>Illustration</i>              | <i>Index</i>    |
|--------------|--------------------|---------------------|----------------------------------|-----------------|
| 1873         | SE 13 sub D-1      | VII-2               | II 44: 6                         | II §47; 65      |
| 1874         | " "                | "                   | II 44: 5                         | " "             |
| 1876         | SE 24 C            | VI-29               | IA 16: 12                        | IA §52          |
| 1877         | SE 13 E-1          | 5 pieces (VII-4)    | II 35: 8 & 9                     | II §§56; 57     |
| 1885         | SE 12 E-2          | VII-4               | II 36: 20                        | II §§47; 56; 57 |
| 1888         | SE 13 E-6          | "                   | II 39: 45                        | II §63          |
| 1889         | "                  | "                   | II 35: 26-38                     | II §§56; 57     |
| 1892         | SE 14 C            | VI-25               | IA 16: 15                        | IA §52          |
| 1893         | SE 23 D            | VII-1               | II 40: 1                         | II §60          |
| 1894         | SE 13 E-1          | VII-2               | II 29: 1                         | II §51          |
| 1895         | "                  | "                   | II 29: 2                         | "               |
| 1896         | "                  | "                   | II 44: 2                         | II §65          |
| 1899         | "                  | 4 pieces (VII-2)    | II 35: 11;<br>II 36: 23          | II §§56; 57     |
| 1902         | SE 13 E-8          | VII-2               | II 42: 5                         | II §62          |
| 1903         | SE 13 E-1          | "                   | II 42: 10                        | II §60          |
| 1905         | SE 4 D             | VI-27               | IA 14: 14                        | IA §44          |
| 1906         | SE 13 E-1          | VII-4               | II 20: 4                         | II §51          |
| 1907         | "                  | "                   | II 42: 1                         | II §62          |
| 1909         | "                  | "                   | II 42: 16                        | "               |
| 1912         | SE 13 E-6          | "                   | II 20: 9                         | II §51          |
| 1913         | SE 13 D-8          | "                   | II 20: 11                        | II §52          |
| 1914         | SE 13 E-6          | "                   | IA 9: 5;<br>IA 23: 13            | IA §31          |
| 1919         | SE 13 E-1          | VII-5               | II 35: 10                        | II §§56; 57     |
| 1929         | SE 23 D or C       | VII-6               | II 39: 38                        | II §63          |
| 1932         | "                  | "                   | II 32: 16;<br>II 39: 39          | II §§80; 82     |
| 1933         | "                  | "                   | II 29: 10                        | II §52          |
| 1938         | SE 24 C-7'         | VII-7               | II 38: 32                        | II §§64; 83     |
| 1943         | SE 22 D-2          | "                   | II 34: a' & a                    | II §58          |
| 1951         | SE 13 E-1          | VII-4               | IA 9: 7; IA,<br>p. 82, fig. 2: a | IA §37          |
| 1953         | SE 13 E-6          | VI-26               | IA 10: 1;<br>IA 23: 11           | IA §33          |
| 1955         | SE 13 E-12         | VII-2               | IA 8: 9;<br>IA 23: 9             | IA §30          |
| 1956         | "                  | "                   | IA 7: 12;<br>IA 23: 5            | IA §29          |
| 1957         | "                  | "                   | IA 8: 11;<br>IA 23: 6            | IA §30          |
| 1960         | SE 13 D west       | VI-27               | IA 13: 3                         | IA §42          |
| 1961         | SE 3 D-1           | VI-30               | IA 13: 8                         | "               |
| 1962         | SE 13 E-12         | VII-2               | IA 7: 13;<br>IA 23: 3            | IA §29          |
| 1963         | "                  | "                   | IA 7: 14;<br>IA 23: 2            | "               |

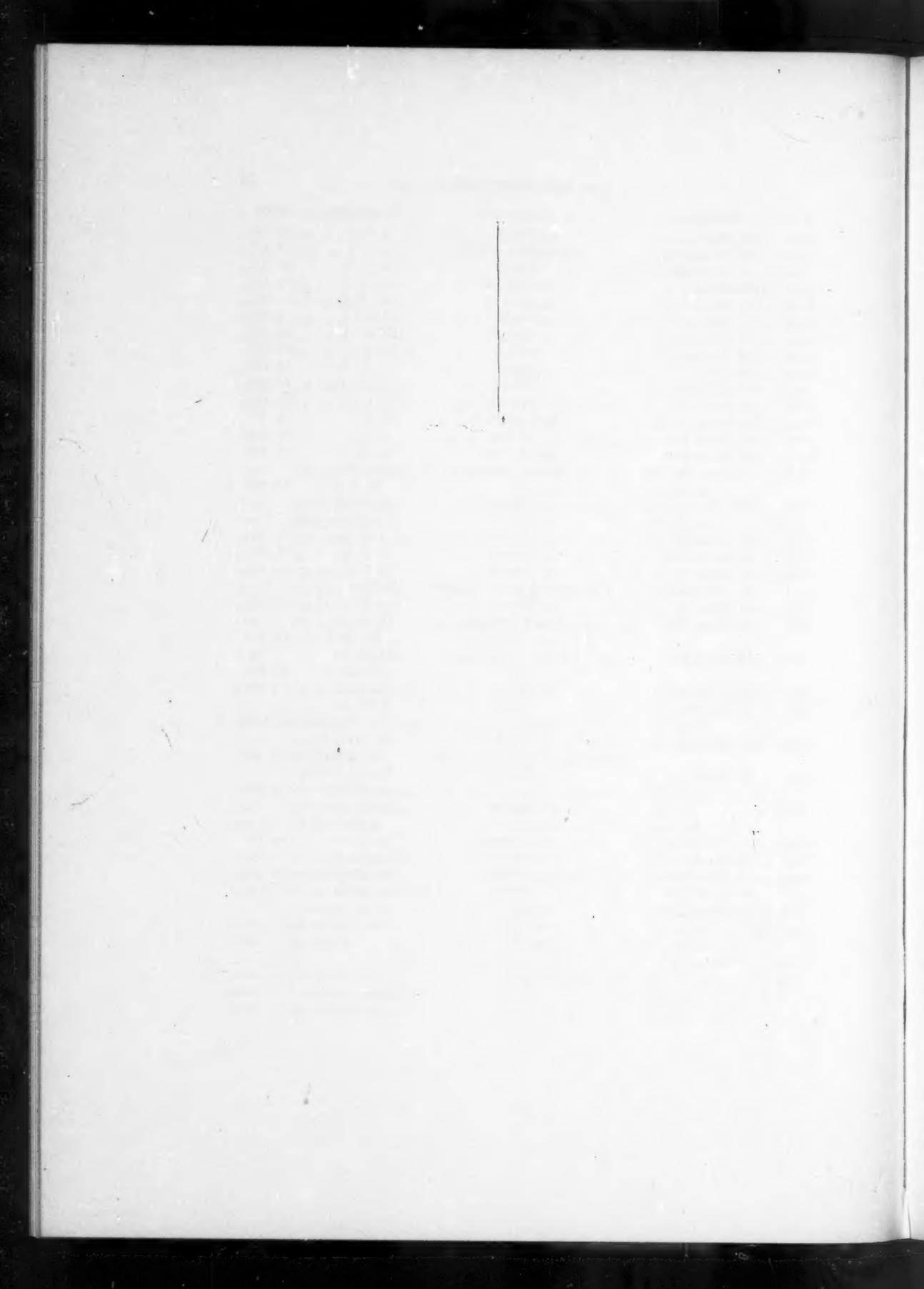
| S. N.   | Providence       | Observations   | Illustration                      | Index       |
|---------|------------------|--|-----------------------------------|-------------|
| 1964    | SE 13 E-6        | VII-6  | IA 9: 9; IA,<br>p. 82, fig. 2: b  | IA §37      |
| 1965    | SE 22 D-2        | VII-7  | II 34: b' & b                     | II §58      |
| 1967a-b | SE 22 D-8 (sub)  | VII-8  | II 32: 2 & 3                      | II §63      |
| 1968    | SE 22 D-6 (sub)  | "  | II 30: 2                          | "           |
| 1986    | SE 22 D-2 (sub)  | "  | II 40: 5                          | II §60      |
| 1989    | SE 13 D-5 (sub)  | VII-2  | IA 9: 12; IA,<br>p. 82, fig. 2: c | IA §37      |
| 1990    | SE 13 D-12 (sub) | "  | IA 11: 1                          | IA §38      |
| 1996    | SE 12 E          | VII-9  | II 35: 25                         | II §§56; 57 |
| 2002    | SE 13 E-5        | Foot and leg of terra-cotta<br>figurine; ht. 3 cm. (VII-9) | —                                 | —           |
| 2007    | SE 13-D-1 (sub)  | VII-4  | IA 8: 13                          | IA §30      |
| 2009    | SE 13 E-6        | E, not D! (VII-4)  | IA 13: 4;<br>IA 23: 12            | IA §42      |
| 2010    | SE 24 C-1'       | VII-5  | IA 18: 7; IA,<br>p. 87, fig. 3: g | IA §56      |
| 2012    | SE 13 E-7        | "  | IA 9: 1                           | IA §31      |
| 2013    | SE 3 D-1         | VI-29  | IA 14: 13                         | IA §44      |
| 2015    | SE 13 E-12       | VII-2  | IA 23: 1                          | IA §29      |
| 2016    | SE 3 E           | VI-12  | II 30: 1 & 3                      | II §§53; 77 |
| 2017    | SE 23 sub D-9    | VII-11   | II 27: 7                          | II §50      |
| 2020    | SE 24 C sub 1    | VII-6  | IA 18: 2                          | IA §55      |
| 2021    | "                | "  | IA 18: 1                          | "           |
| 2023    | SE 3 D-1         | VI-22  | IA 15: 12                         | IA §47      |
| 2027    | SE 23 C-1        | VII-12   | II 32: 5                          | II §79      |
| 2033    | SE 23 D          | VII-14   | II 41: 19                         | II §50      |
| 2039    | SE 13 E          | Terra-cotta bull's head; 4.5 x<br>3.6 cm. (VII-12)         | —                                 | —           |
| 2042    | NW 22A-5 (sub)   | L. B. context (VII-12)                                     | II 31: 2                          | II §81      |
| 2044    | SE 14 C          | VII-13   | II 32: 13                         | II §80      |
| 2047    | SE 13 C          | "  | II 32: 12                         | "           |
| 2048    | SE 4 D           | "  | II 38: 31                         | II §64      |
| 2050    | SE 33 D          | "  | II 29: 7                          | II §51      |
| 2073    | SE 14 F or E     | "  | II 31: 5                          | II §65      |
| 2081    | NW 22 A-5 (sub)  | C context (VII-12)   | IA 16: 9                          | IA §52      |
| 2083    | "                | " "  | IA 18: 4                          | IA §55      |
| 2085    | SE 12 D-1 (sub)  | VII-1  | IA 10: 4                          | IA §33      |
| 2087    | SE 3 D-1         | VI-25  | IA 15: 1                          | IA §45      |
| 2091    | SE 12 C          | VII-7  | IA 18: 3                          | IA §55      |
| 2092    | SE 22 D-2 (sub)  | VII-8  | IA 8: 4                           | IA §30      |
| 2109    | SE 22 sub D-1    | VII-15   | II 39: 49                         | II §63      |
| 2125    | SE 13 D-14       | VII-18   | II 27: 9                          | II §50      |
| 2126    | SE 13            | Edge of pit (C to A) (VII-18)                              | II 32: 9 & 10                     | II §79      |
| 2142    | SE 3 C           | VI-25  | IA 16: 10                         | IA §52      |
| 2145    | SE 23 D          | VII-11   | IA 14: 3                          | IA §43      |

| <i>S.N.</i> | <i>Provenience</i> | <i>Observations</i>   | <i>Illustration</i>     | <i>Index</i> |
|-------------|--------------------|---|-------------------------|--------------|
| 2151        | SE 12 D-7          | VII-16  | IA 15: 7                | IA §46       |
| 2152        | "                  | VII-18  | IA 15: 6                | IA §45       |
| 2154        | SE 14 D-1          | 38 pieces (VII-19)  | II 36: 1, 2, 8-12       | II §§56; 57  |
| 2157        | SE 22 sub D-2      | VII-18  | IA, p. 82,<br>fig. 1: a | IA §47       |
| 2160        | SE 13              | VII-19  | II 42: 11               | II §60       |
| 2164        | SE 12 sub D-1      | "   | IA 14: 1                | IA §49       |
| 2166        | SE 23 D-1          | "   | II 40: 3                | II §60       |
| 2179        | SE 23 D-7          | "   | IA 15: 17               | IA §49       |
| 2180        | "                  | "   | IA 15: 14               | IA §47       |
| 2181        | SE 23 D-1          | 2 pieces (VII-19)   | IA 15: 15               | IA §49       |
| 2183        | SE 13 H-1          | VII-19  | IA 3: 10                | IA §10       |
| 2184        | SE 4-D 1 (sub)     | VII-20  | II 30: 5                | II §53       |
| 2185        | SE 22 D-7          | D <sub>1</sub> (VII-20)   | II 32: 1                | II §63       |
| 2203        | SE 23 sub D-7      | VII-20  | II 29: 5                | II §51       |
| 2204        | SE 23 D-C          | "   | II 29: 6                | II §52       |
| 2210        | NW 33 A-10         | VII-21  | II 44: 3                | II §65       |
| 2215        | SE 14 D-5          | "   | II 35: 24               | II §56       |
| 2221        | SE 23 D-9          | Terra-cotta leg of bull; ht. 4.8<br>cm., mmxim. diam. 2.5 cm. (VII-21)  | —                       | —            |
| 2224        | SE 23 D            | Skull of young ox, horns sawed<br>off at stump; 16 x 12 cm.<br>(VII-11) | —                       | —            |
| 2226        | SE 14 D-3          | VI-30   | IA 12: 13               | IA §41       |
| 2227        | SE 12 D east       | VII-9   | IA 14: 2                | IA §43       |
| 2232        | SE 13 cave         | VII-19  | IA 2: 1;<br>IA 19: 2    | IA §7        |
| 2240        | SE 23 D-5          | E? (VII-22)   | II 30: 7                | II §53       |
| 2242        | SE 12 C            | VII-13  | IA 16: 8                | IA §62       |
| 2249        | SE 13 sub D-14     | 11 pieces (VII-22)  | II 35: 1-6              | II §§56; 57  |
| 2250        | "                  | 4 pieces (VII-22)   | II 36: 24               | " "          |
| 2262        | SE 13 D-7 (sub)    | G or F (VII-11)   | IA 4: 14                | IA §15       |
| 2264        | SE 13 sub D-14     | VII-22  | IA 7: 19                | IA §29       |
| 2272        | SE 23 E-5          | VII-21  | IA 7: 11;<br>IA 23: 8   | "            |
| 2276        | SE 33 D            | With scarab S. N. 2050 (VII-13)   | II 35: 15-23            | II §§56; 57  |
| 2277        | S. of SE 23 D-5    | VII-13  | II 36: 13-16            | " "          |
| 2279        | SE 14 D-5          | Limestone dagger pommel; 3.5<br>x 3.8 cm. (VII-21)                      | —                       | —            |
| 2280        | SE 23 C-8          | VII-22  | II 27: 5                | II §78       |
| 2290        | SE 23 E-5          | VII-19  | II 43: b & d            | II §61       |
| 2294        | SE 23 D-5          | VII-25  | II 40: 4                | II §60       |
| 2297        | SE 23 D            | VII-26  | IA, p. 82,<br>fig. 1: c | IA §36       |
| 2301        | SE 23 E            | "   | II 44: 13               | II §65       |
| 2303        | SE 12 D-1 (sub)    | VII-27  | II 29: 3                | II §51       |
| 2305        | SE 24 débris       | E-D (VII-26)  | II 44: 10               | —            |

| S.N. | Provenience      | Observations   | Illustration           | Index            |
|------|------------------|--|------------------------|------------------|
| 2314 | SE 23 D-4        | Join with C-sherd; hence not in context (VII-15)                                 | IA 26: 2<br>II 39: 46  | IA §60<br>II §63 |
| 2315 | SE 23 D-E        | VII-27   | IA 10: 13              | IA §35           |
| 2321 | SE 12 D-1 (sub)  | VII-1  | IA 8: 7                | IA §30           |
| 2322 | SE 13(E?)        | VII-14   | AI 7: 1                | IA §28           |
| 2323 | SE 13 sub D-6    | VII-14   | IA 2: 5                | IA §7            |
| 2324 | SE 13 cave       | VII-19   | IA 12: 15              | IA §41           |
| 2325 | SE 22 D-9        | VII-18   | IA 12: 11              | IA §40           |
| 2326 | SE 23 D          | VII-11   | IA 16: 3               | IA §52           |
| 2328 | S. of SE 23 D-4  | D(!) (VII-25)  | IA 8: 3;               | IA §30           |
| 2329 | SE 23 sub D-5    | VII-27   | IA 23: 7<br>IA 12: 16  | IA §41<br>IA §62 |
| 2336 | SE 23 D-9        | VII-16   | —                      | —                |
| 2339 | SE 24 C-8        | C. (VII-26)  | IA 16: 16              | —                |
| 2349 | SE 23 E-4        | Broken ostrich egg (VII-28)  | —                      | —                |
| 2355 | SE 23 sub D-5    | VII-28   | II 42: 7               | II §62           |
| 2356 | "                | VII-29   | II 44: 15              | II §65           |
| 2357 | SE 24 sub C-2    | "  | II 42: 6               | II §62           |
| 2362 | SE 24 sub C-3    | D (VIII-29)  | II 42: 3               | —                |
| 2366 | SE 23 D-5        | VII-29   | II 44: 12              | II §65           |
| 2368 | SE 13 pit 1 (G)  | "  | II 44: 9               | II §32           |
| 2369 | SE 23 sub C-4    | VII-13   | IA 12: 10              | IA §40           |
| 2371 | SE 12 E-3        | VII-14   | IA 6: 2                | IA §28           |
| 2377 | S. of SE 23 D-9  | D(!) (VII-25)  | IA 16: 13              | IA §52           |
| 2378 | SE 23 C          | C. (?) (VII-14)  | IA 18: 5;<br>IA 25: 86 | IA §59           |
| 2379 | SE 23 D          | VII-26   | IA 15: 9               | IA §46           |
| 2380 | "                | I  | IA 15: 10              | —                |
| 2382 | SE 13 W. of D-14 | G-F context (VII-30)   | II 42: 4               | II §32           |
| 2383 | "                | " "  | II 42: 8               | —                |
| 2392 | SE 23 sub D-4    | Frgmt. of lava bowl rim with interior incised decoration; 7.7 x 4.4 cm. (VII-20) | —                      | —                |
| 2397 | SE 22 D-9        | VII-15   | IA 12: 14              | IA §40           |
| 2398 | SE 12 E-3        | VII-14   | IA 6: 1                | IA §28           |
| 2399 | SE 13 sub D-1    | VII-2  | IA 9: 2                | IA §31           |
| 2401 | SE 13 sub D-6    | VII-4  | IA 10: 6               | IA §34           |
| 2402 | SE 13 F-2        | VIII-1   | II 42: 9               | II §32           |
| 2411 | NW 33 A-4 cave   | M. B. II (VIII-2)  | II 39: 44              | II §63           |
| 2420 | "                | " "  | II 29: 14              | II §52           |
| 2421 | SE 23 D-4        | VII-14   | IA 12: 8               | IA §40           |
| 2423 | SE 14 D-3        | E or D (VII-1)   | IA 12: 7               | —                |
| 2424 | SE 23 D-6        | VII-19   | IA 12: 12              | IA §41           |
| 2425 | SE 13 sub D-16   | VII-22   | IA 8: 15               | IA §30           |
| 2428 | SE 23 D-4        | VII-21   | IA 13: 1               | IA §41           |
| 2429 | SE 13 sub D-1    | VII-4  | IA 10: 2               | IA §34           |
| 2430 | SE 23 G          | VIII-4   | II 44: 14              | —                |

| S. N. | Provenience                 | Observations                                       | Illustration           | Index       |
|-------|-----------------------------|--|------------------------|-------------|
| 2432  | SE 13 sub D-9               | VIII-3   | II 44: 8               | II §65      |
| 2439  | NW 32 A-10 (sub)            | VIII-4   | II 40: 6               | II §60      |
| 2440  | "                           | "  | II 38: 33              | II §64      |
| 2455  | SE 13 sub D-1               | VII-2  | IA 11: 9               | IA §35      |
| 2457  | SE 13 cave (H)              | VII-18   | IA 3: 6                | IA §9       |
| 2458  | SE 23 D-1                   | VII-19   | IA 14: 10              | IA §44      |
| 2459  | SE 14 D                     | VII-20   | IA 12: 2               | IA §40      |
| 2460  | SE 23 sub D-4               | "  | IA 10: 8               | IA §34      |
| 2462  | "                           | VII-22   | IA 8: 12               | IA §30      |
| 2463  | SE 13 D-14 (sub)            | "  | IA 8: 2                | "           |
| 2477  | SE 13 E-1                   | Diam. 21.7 cm., ht. 13.5 cm.<br>(VII-2)            | II 38: 39              | II §65      |
| 2478  | "                           | Diam. 20.5 cm., ht. 12.2 cm.<br>(VII-2)            | "                      | "           |
| 2479  | NW 32 A-10 (sub)            | Diam. 33.4 cm.; ht. 14.7 cm.<br>(VIII-4)           | II 38: 40              | "           |
| 2480  | SE 24 sub C (E)             | Oxidized barley (VIII-4)                           | —                      | —           |
| 2488  | SE 23 near rock             | VIII-6   | II 45: 23              | II §§18; 65 |
| 2489  | SE 13 sub D-14 W.           | VII-22   | IA 8: 1                | IA §30      |
| 2513  | SE 3 D-1                    | VI-29  | IA 13: 6               | IA §42      |
| 2517  | SE 24 C-2                   | VII-26   | II 31: 8               | II §83      |
| 2518  | SE 12 C                     | VII-11   | II 31: 6               | "           |
| 2525  | SE 23 sub G                 | VIII-10  | II 44: 11              | II §22      |
| 2527  | SE 23 sub G-3               | Alabaster dagger pommel; 4.0<br>x 3+ cm. (VIII-10) | —                      | —           |
| 2528  | "                           | Flint knife; 10.9 x 3.1 cm.<br>(VIII-10)           | —                      | II §22      |
| 2529  | SE 23 sub G-3               | VIII-10  | II 45: 17              | II §§18; 65 |
| 2530  | "                           | "  | II 45: 19              | " "         |
| 2533  | SE 23 H                     | VIII-12  | II 39: 50              | II §22      |
| 2549  | SE 14 J                     | VIII-5   | IA 20: 25              | IA §3       |
| 2550  | SE 23 sub G-4               | Flint knife; 9.6 x 2 cm. (VIII-<br>11)             | —                      | —           |
| 2557  | NW 32 A-12 cistern          | In wrong context (VIII-2)                          | II 45: 21              | II §§18; 65 |
| 2558  | SE 23 sub G-2 cave          | VIII-11  | IA 2: 7                | IA §7       |
| 2559  | SE 33 sub G-5               | VIII-10  | IA 1: 4;<br>IA 19: 1   | IA §2       |
| 2560  | N. of SE 23 sub D-9         | VII-23   | IA 8: 5                | IA §30      |
| 2561  | SE 13 sub D-15              | G-F (VII-29)                                       | IA 5: 4                | IA §20      |
| 2562  | W. of SE 23 sub D-5<br>cave | VIII-10  | IA 1: 2                | IA §2       |
| 2563  | SE 23 sub D-2               | VII-22   | IA 8: 14               | IA §30      |
| 2564  | SE 23 C-8                   | VII-26   | IA 18: 6;<br>IA 25: 44 | IA §59      |
| 2565  | SE 23 sub G-3               | VIII-11  | IA 4: 10               | IA §15      |
| 2566  | N. of SE 23 sub G-4         | "  | IA 3: 5                | IA §8       |
| 2567  | SE 23 sub D-5               | ?  | IA 3: 1                | "           |

| <i>S. N.</i> | <i>Provenience</i>   | <i>Observations</i>                    | <i>Illustration</i>                | <i>Index</i> |
|--------------|----------------------|--|------------------------------------|--------------|
| 2568         | SE 23 sub D-1        | VII-27                                 | IA 8: 16                           | IA §30       |
| 2569         | SE 23 sub D-8        | G-F context (VIII-9)                   | IA 4: 2                            | IA §15       |
| 2570         | SE 23 sub D-5        | VII-29                                 | IA 3: 13                           | IA §11       |
| 2571         | SE 23 D-1            | VII-19, 26                             | IA 13: 2                           | IA §41       |
| 2575         | SE 23 sub C-9        | VII-28                                 | IA 16: 6                           | IA §52       |
| 2579         | SE 13 D-20           | VII-26                                 | IA 15: 5                           | IA §45       |
| 2585         | SE 23 D-4            | VII-28                                 | IA 5: 11                           | IA §46       |
| 2602         | SE 13 sub F-5        | VIII-1                                 | IA 5: 7                            | IA §20       |
| 2604         | SE 3 E               | VII-15                                 | IA 11: 2                           | IA §38       |
| 2605         | SE 23 D or C         | VII-11                                 | IA 18: 13                          | IA §62       |
| 2606         | SE 23 G or F         | VIII-11                                | IA 4: 12                           | IA §15       |
| 2611         | SE 24 C <sub>1</sub> | E(?) (VIII-3)                          | IA 9: 3                            | IA §31       |
| 2613         | SE 23 sub F-2        | VIII-1                                 | IA 4: 5                            | IA §15       |
| 2617         | SE 23 sub D-9        | E (VII-23)                             | IA 10: 11                          | IA §35       |
| 2619         | NW 22 A-14 (sub)     | C or B (VII-6)                         | IA, p. 87,<br>fig. 3: d            | IA §56       |
| 2620         | NW 22 A-5 (sub)      | C (VII-12)                             | IA 18: 9; IA,<br>p. 87, fig. 3: e  | "            |
| 2622         | SE 14 sub F-1        | J (VIII-6)                             | IA 1: 10                           | IA §5        |
| 2628         | SE 23 sub D-2        | VII-22                                 | IA 3: 15                           | IA §9        |
| 2630         | SE 12 E              | VII-25                                 | IA 9: 4                            | IA §31       |
| 2631         | SE 3 D-3 (sub)       | E <sub>1</sub> (silo in rock) (VII-14) | IA 9: 6                            | "            |
| 2632         | SE 13 D              | VII-29                                 | IA 15: 4                           | IA §45       |
| 2633         | SE 13 sub D-14       | G or F (VII-28)                        | IA 4: 13;<br>IA 22: 1              | IA §18       |
| 2634         | SE 22 sub D-9        | G or F (VIII-11)                       | IA 4: 16;<br>IA 22: 5              | IA §18       |
| 2637         | SE 14 sub F-1        | VIII-5                                 | IA 1: 8                            | IA §5        |
| 2641         | SE 23 D-9            | VII-21                                 | II 31: 7;<br>II 40: 7 & 8          | II §§61; 65  |
| 2646         | SE 24 C              | VII-7                                  | IA 18: 8; IA,<br>p. 87, fig. 3: h  | IA §56       |
| 2647         | SE 12 D-7            | VII-18                                 | IA 15: 18; IA,<br>p. 87, fig. 3: c | IA §48       |
| 2648         | "                    | VII-19                                 | IA 15: 19; IA,<br>p. 87, fig. 3: b | "            |
| 2651         | "                    | C <sub>1</sub> (VII-23)                | IA 26: 9                           | IA §60       |
| 2652         | SE 23 C-8            | VII-26                                 | IA 26: 1                           | "            |
| 2666         | SE 13 sub D-6        | VII-4                                  | IA 23: 15                          | IA §35       |
| 2667         | SE 13 sub D-1        | VII-2                                  | IA 23: 14                          | "            |
| 2668         | SE 13 sub D-7        | "                                      | IA 23: 16                          | "            |



## INDEX OF OBJECTS IN THE PLATES OF VOLUME II

**Pl. 20:** b (§ 87).

21: a (= 22) (§ 49), b (§ 55).—SN: a = 727; b = 1578.

22 (= 21: a).

23: (§§ 75, 77).—SN: 1642.

24: a-b (§§ 75, 76).—SN: 1367.

25: 1-5 (§ 78). (1 = 28: 2; 2 = 28: 1; 3 = 28: 3; 4 = 28: 4; 5 = 28: 5).—SN: 1 = 474, 2 = 700, 3 = 631, 4 = 690, 5 = 701.

26: 1-5 (§ 78). (1 = 27: 1; 3 = 27: 2; 4 = 27: 3; 5 = 27: 4).—SN: 1 = 1409, 2 = 1283, 3 = 1408, 4 = 1470, 5 = 1469.

27: 1-6 (§ 78), 7-9 (§ 50). (1 = 28: 1; 2 = 28: 3; 3 = 28: 4; 4 = 28: 5).—SN: 5 = 2280, 6 = 1788, 7 = 2017, 8 = 1673, 9 = 2125.

28: 9-14 (§ 52). (1 = 25: 2; 2 = 25: 1; 3 = 25: 3; 4 = 25: 4; 5 = 25: 5).—SN: 9 = 652, 10 = 731, 11 = 773, 12 = 774, 13 = 742, 14 = 755.

29: 1-5 (§ 51), 6 (§ 52), 7 (§ 51), 8 (§ 52), 9 (§ 51), 10-15 (§ 52).—SN: 1 = 1894, 2 = 1895, 3 = 2303, 4 = 1906, 5 = 2203, 6 = 2204, 7 = 2050, 8 = 1675, 9 = 1912, 10 = 1933, 11 = 1913, 12 = 1723, 13 = 1792, 14 = 2420, 15 = 1750.

30: 1 (§§ 53, 77), 2 (§ 63), 3 (§§ 53, 77), 4 (§ 54), 5 (§ 53), 6 (§ 54), 7 (§ 53). (4 = 31: 3; 6 = 31: 4).—SN: 1 & 3 = 2016, 2 = 1968, 4 = 1731, 5 = 2184, 6 = 1806, 7 = 2240.

31: 1 (§ 54), 2 (§ 81), 3-4 (§ 54), 5 (§ 65), 6 (§ 83), 7 (§§ 61, 65), 8 (§ 83). (3 = 30: 4; 4 = 30: 6; 7 = 40: 7 & 8).—SN: 1 = 729, 2 = 2042, 5 = 2073, 6 = 2518, 7 = 2641, 8 = 2517.

32: 1-3 (§ 63), 4-6 (§ 79), 7-8 (§§ 77, 80), 9-11 (§ 79), 12-14 (§ 80), 15 (§ 54), 16 (§§ 80, 82). (7 & 8 = 33: 1-2; 16 = 39: 39).—SN: 1 = 2185,

2 & 3 = 1967a-b, 4 = 1712, 5 = 2027, 6 = 1676, 7 & 8 = 1640, 9 & 10 = 2126, 11 = 1869, 12 = 2047, 13 = 2044, 14 = 1674, 15 = 1872, 16 = 1932.

33: 3-8 (§ 80). (1 & 2 = 32: 7-8).—SN: 3 & 4 = 1489, 5 & 6 = 1540, 7 & 8 = 1466.

34: (§ 58).—SN: a' & a = 1943, b' & b = 1965.

35: 1-38 (§§ 56, 57). (11 = 36: 23; 7 & 13 = 36: 17-19).—SN: 1-6 = 2249, 7 = 1832, 8 & 9 = 1877, 10 = 1919, 11 = 1890, 12 = 1715, 13 = 1832, 14 = 1790, 15-23 = 2276, 24 = 2215, 25 = 1996, 26-38 = 1889.

36: 1-25 (§§ 56, 57), 27-28 (§ 56), 31 (§ 57). (17-19 = 35: 7 & 13; 23 = 35: 11).—SN: 1-2 = 2154, 3-7 = 1699, 8-12 = 2154, 13-16 = 2277, 20 = 1885, 21 = 1783, 22 = 1826, 24 = 2250, 25 = 1826.

37: a (§§ 55-58), b (§§ 56, 57).—SN: a = 725, 733a-d, 734, 735, 737, 747; b = 1641.

38: 1-38 (§ 64); 9, 11, 12, 19, 25, 29, 32, 37, 38 (§ 83); 39-40 (§ 65).—SN: 1-7 = 1579, 8 = 1213, 9 = 1461, 11 = 1598, 12 = 1488, 13 = 1216, 19 = 1485, 21 = 1482, 23 = 1381, 25 = 1371, 27 = 1571, 28 = 1572, 29 = 1479, 30 = 1596, 31 = 2048, 32 = 1938, 33 = 2440, 34 = 1844, 35 = 1787, 36 = 1843, 37 = 1460, 38 = 963, 39 = 2477, 40 = 2479.

39: 1-2 (§ 82), 3 (§ 63), 4-36 (§ 82), 37-38 (§ 63), 40 (§ 82), 41-47 (§ 63), 48 (§ 82), 49 (§ 63), 50 (§ 22). (39 = 32: 16).—SN: 1 = 1397, 2 = 1493, 3 = 1583, 4 = 1398, 5 = 1340, 7 = 1613, 10 = 1484, 11 = 1428, 12 = 1343, 13 = 1373, 14 = 1473, 16 = 1463, 21 = 1175, 23 = 1372, 24 = 1374, 25 = 1341, 26 = 1355, 27 =

1177, 28 = 1476, 30 = 1344, 32 =  
 964, 34 = 1474, 35 = 1440, 36 =  
 1709, 37 = 1871, 38 = 1929, 40 =  
 1682, 41-43 = 1870a-c, 44 = 2411, 45  
 = 1888, 46 = 2315, 47 = 1868, 48 =  
 1729, 49 = 2109, 50 = 2533.

**40:** 1-6 (§ 60), 10 (§§ 65, 83), 11 (§ 83),  
 12 (§ 62), 13 (§§ 65, 83), 14 (§ 22),  
 15 (§ 65), 16 (§ 22), 17 (§§ 65, 83),  
 18 (§ 65), 19 (§§ 65, 83), 20 (§ 65),  
 22 (§§ 65, 83). (7 & 8 = 31: 7).—  
 SN: 1 = 1893, 2 = 1733, 3 = 2166,  
 4 = 2294, 5 = 1986, 6 = 2430, 10 =  
 1426, 11 = 1396, 12 = 1584, 13 =  
 1325, 14 = 1015, 15 = 1595, 16 =  
 958, 17 = 1423, 18 = 1574, 19 =  
 1442, 20 = 1573, 22 = 1450.

**41:** 1-2 (§ 81), 3 (§ 59), 4 (§§ 44, 59,  
 65), 5 (§ 81), 6 (§ 59), 7 (§ 81), 8-9  
 (§ 59), 10 (§ 62), 11 (§§ 44, 59), 12  
 (§ 81), 13 (§ 61), 14 (§ 60), 15  
 (§ 81), 16-17 (§§ 44, 59), 18-19  
 (§ 59), 20-23 (§ 81), 24 (§§ 44, 59),  
 25 (§ 81).—SN: 1 = 1389, 2 = 1551,  
 3 = 745, 4 = 744, 5 = 1441, 6 = 757,

7 = 541, 8 = 739, 9 = 732, 10 = 716,  
 11 = 775, 12 = 651, 13 = 769, 14 =  
 717, 15 = 702, 16 = 1708, 17 = 1722,  
 18 = 1853, 19 = 2033, 20-21 = 1399,  
 22 = 1421, 23 = 1378, 24 = 1580, 25  
 = 1394.

**42:** 1-3 (§ 62), 4 (§ 32), 5-7 (§ 62), 8-9  
 (§ 32), 10-12 (§ 60), 13-14 (§ 62).—  
 15 (§§ 44, 62), 16 (§ 62).—SN: 1 =  
 1907, 2 = 1707, 3 = 2362, 4 = 2382,  
 5 = 1902, 6 = 2357, 7 = 2355, 8 =  
 2383, 9 = 2402, 10 = 1903, 11 =  
 2160, 12 = 692, 13 = 1339, 14 =  
 1549, 16 = 1900.

**43:** a & c (§ 32), b & d (§ 61).—SN:  
 a & c = 891, b & d = 2290.

**44:** 1-4 (§ 65), 5-6 (§§ 47, 65), 7-8 (§ 65),  
 9 (§ 32), 11 (§ 22), 12-13 (§ 65), 15  
 (§ 65).—SN: 1 = 1765, 2 = 1896, 3  
 = 2210, 4 = 1807, 5 = 1874, 6 =  
 1873, 7 = 1548, 8 = 2432, 9 = 2368,  
 10 = 2305, 11 = 2525, 12 = 2366, 13  
 = 2301, 14 = 2430, 15 = 2356.

**45:** 17-36 (§§ 18, 65, 83).—SN: 17 =  
 2520, 19 = 2530, 21 = 2557, 23 =  
 2488.

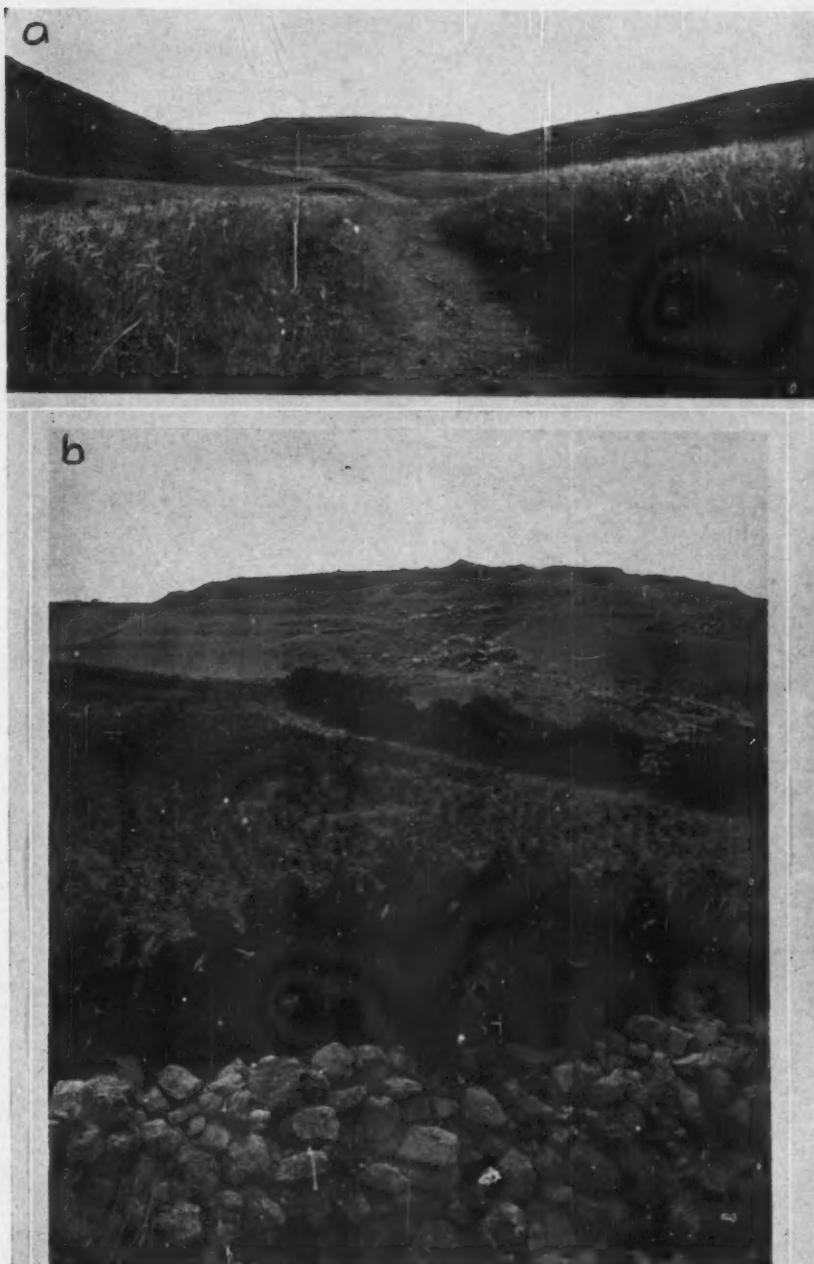


PLATE 1

- a. Tell Beit Mirsim from the north (May, 1926).
- b. Tell Beit Mirsim from the southeast at the end of the first campaign (1926).

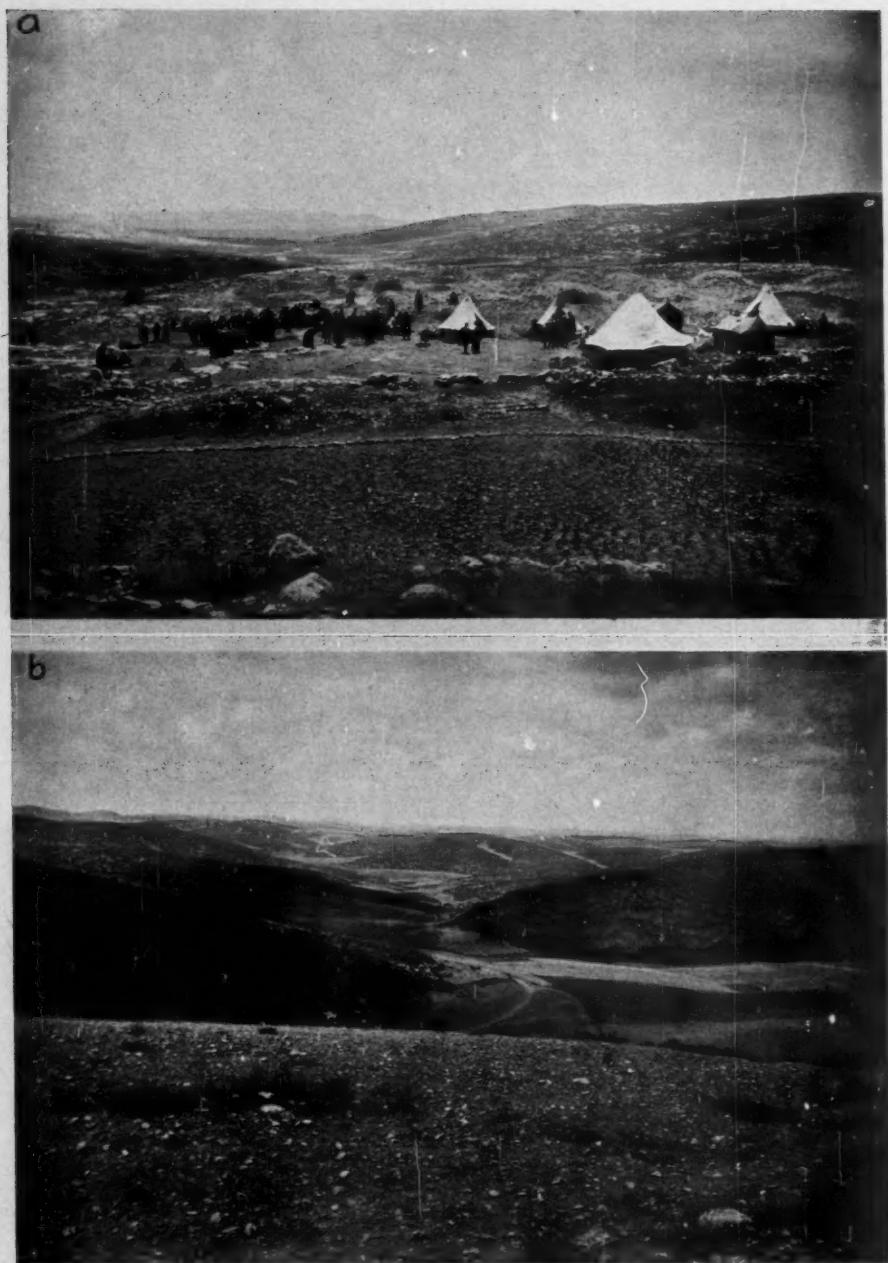


PLATE 2    a. Looking south from Tell Beit Mirsim (the camp of 1926 is in the foreground).  
              b. Looking north from the tell down Wâd el-Buṭm.

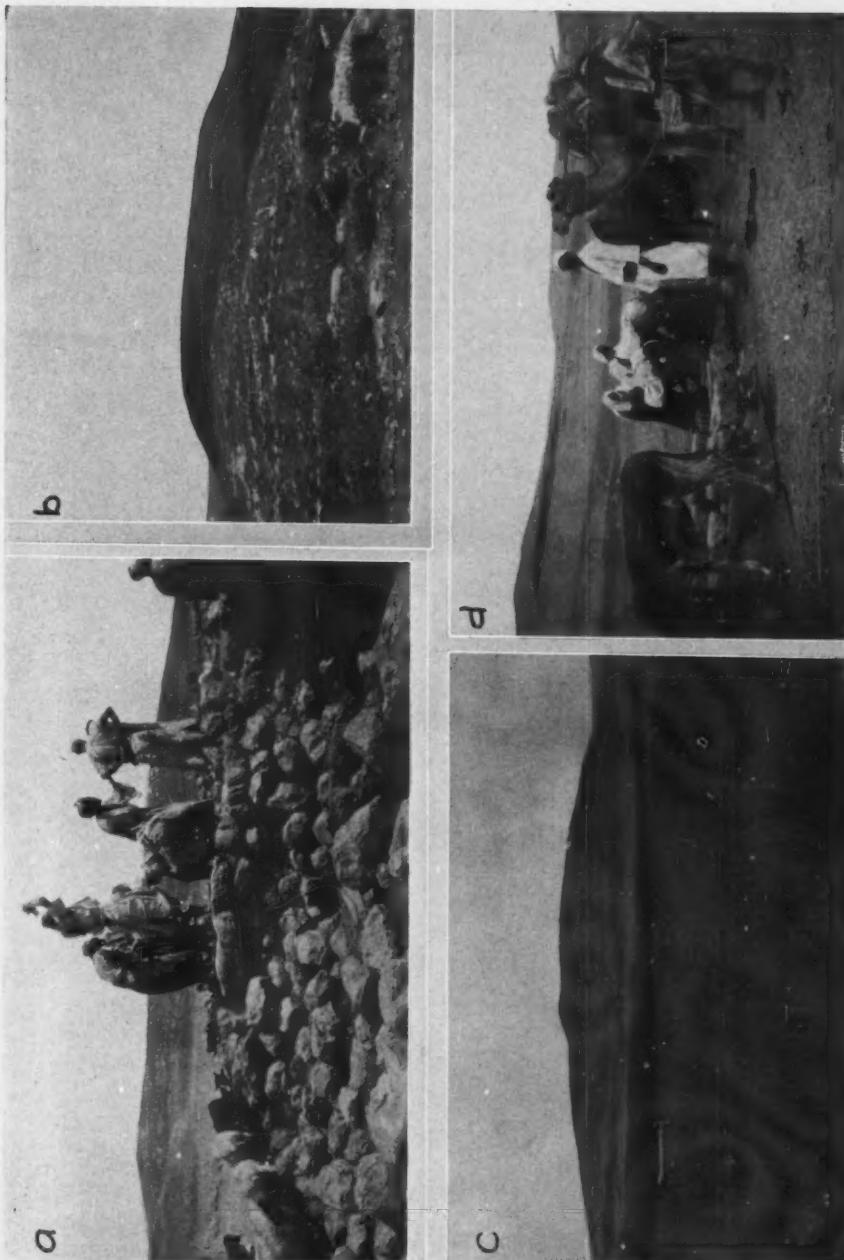
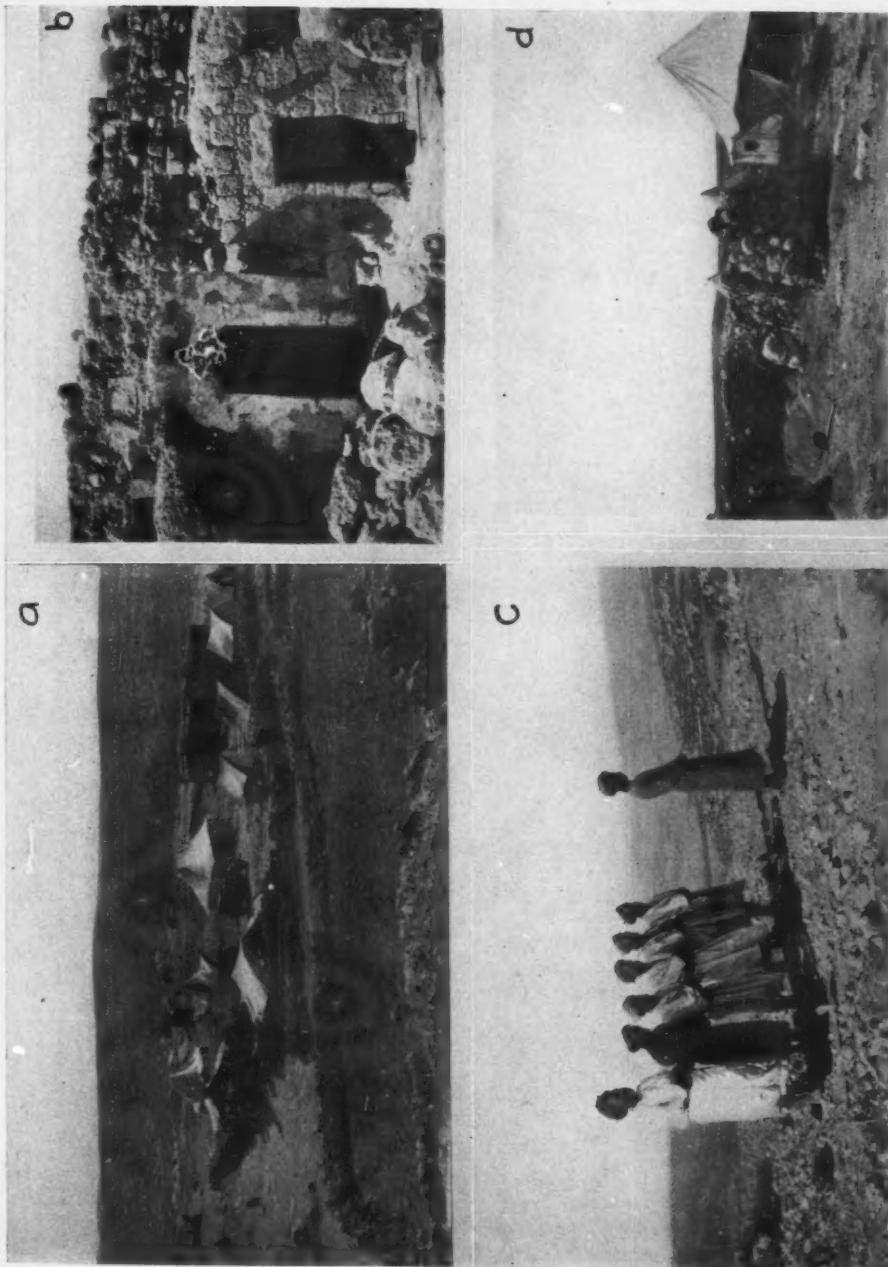


PLATE 3    a. The South Well (Bayyaret el-Burj).  
              e. Tell 'Aittin, north of Tell Beit Mirsim.

b. Tell el-Khawell (i) feh, south of Tell Beit Mirsim.  
d. The North Well, near Khirbet Deir el-'Asal.



PLATE 4    a. The expedition staff in 1932 (standing, from left to right: Messrs Gad, Gordon, Detweiler, Bright, Stinespring, Liggitt, Broyles, Schmidt; sitting, from left to right: Kelso, Albright, Kyle, Glueck).  
 b. Yūsif 'Abd el-Ḥamid, *mukhtár* of Dūrā (1926).  
 c. The camp staff in 1928: Zari' Khalil (left), Abū Ilyās, for many years Howard Crosby Butler's expedition cook (right).  
 d. Ḥusein el-Ḥajj, *mukhtár* of Dūrā (1926).



- a. The camp in 1930 (the reed 'arâbah at the right proved impracticable and was replaced by a stone building in 1932).
- b. Masonry doorways to occupied caves under Khirbet el-Burj.
- c. Afternoon prayers (*salât el-'asr*) on the tell in 1926.
- d. Plastering a dry stone wall with 'fin, camp of 1928.

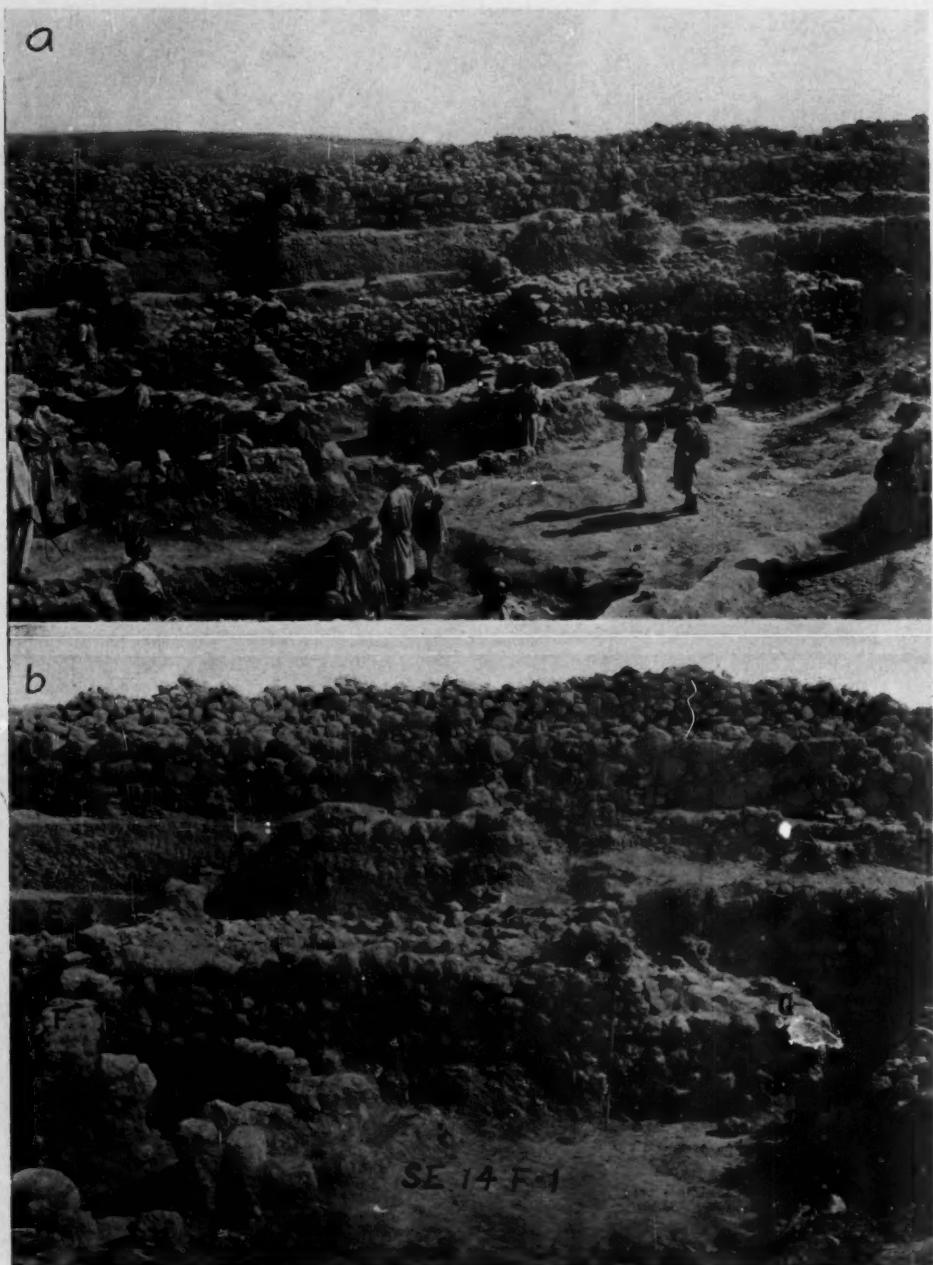


PLATE 6      a. Stratification of deposits below the latest city-wall in SE 24 and 14, toward end of 1932 campaign (looking south).  
b. Details from the right of 6:a.



PLATE 7

a. The G-F city-wall in SE 14, toward close of 1932 campaign.  
b. Details from SE 24F, toward end of the 1932 campaign.

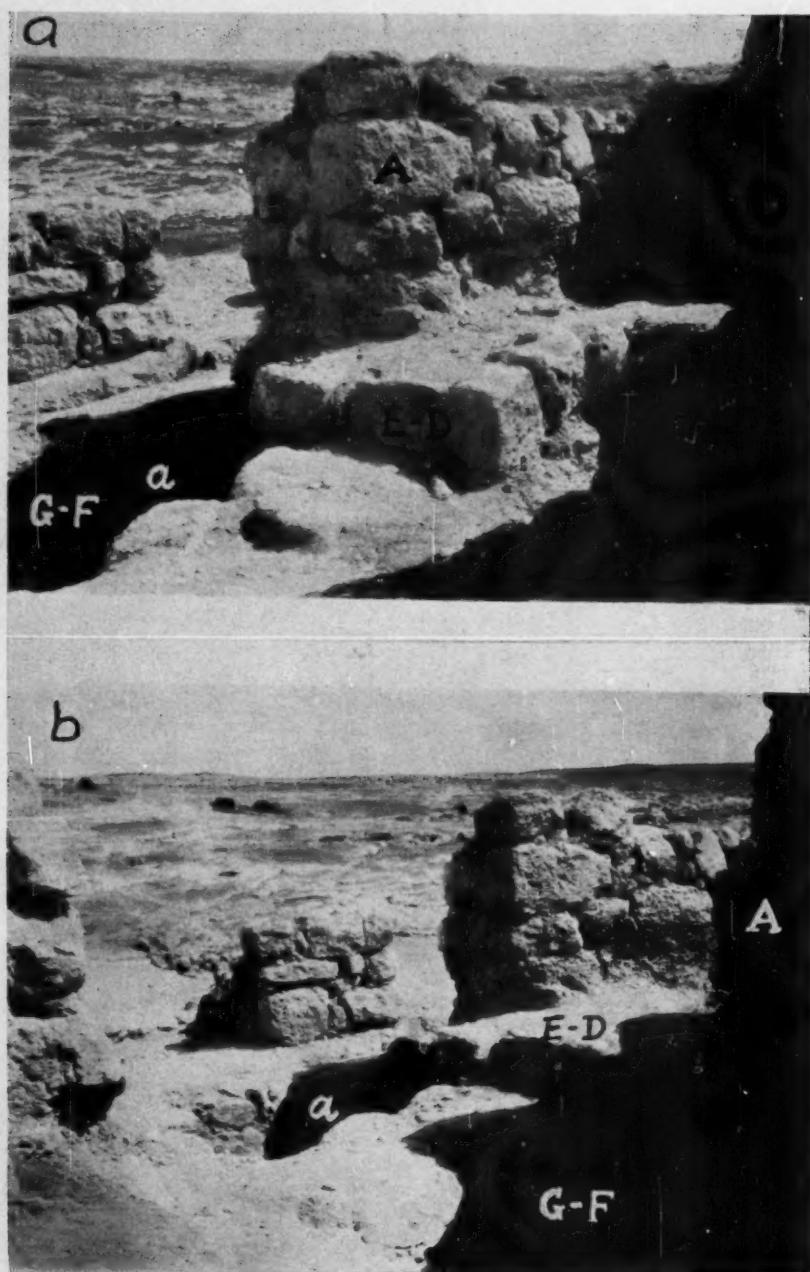


PLATE 8      a. Stratification of the East Gate, May, 1926, looking south.  
b. A different view of the same loci.

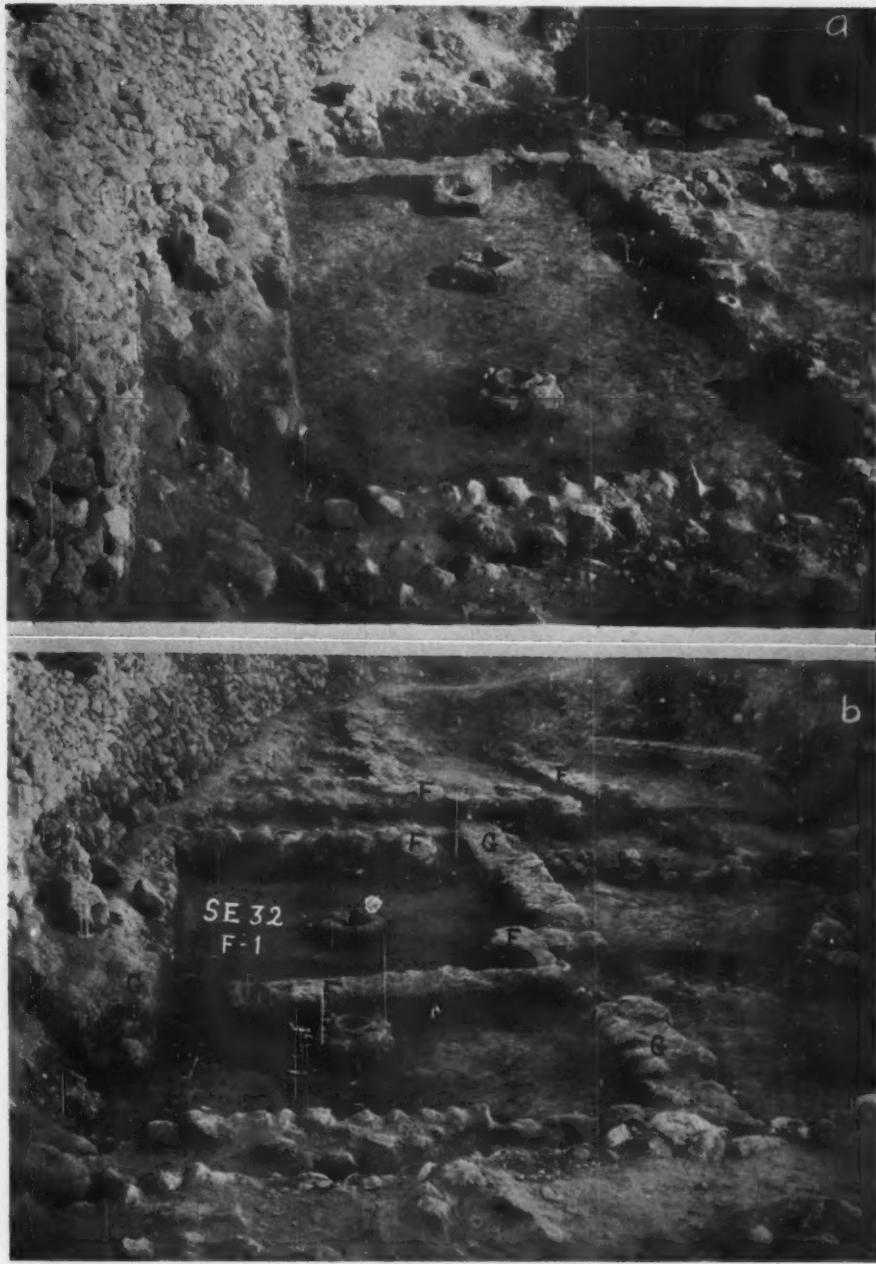


PLATE 9  
a. The hall of the G house in SE 23-33, looking north (early July, 1930).  
b. The same, before the removal of the F foundations (June 30, 1930).

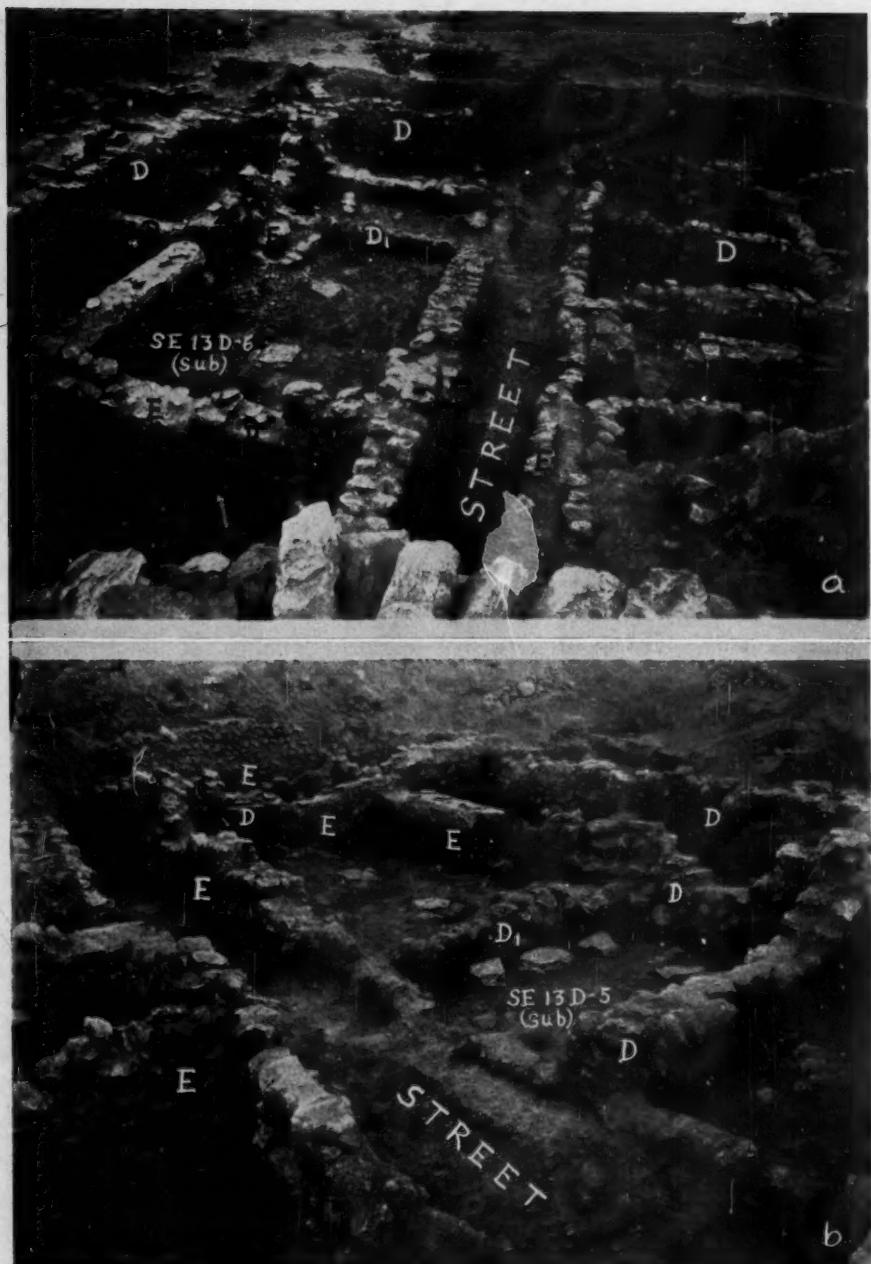


PLATE 10

a. The E-D house in SE 13, looking northeast (July, 1932).  
b. The same, looking northwest.



PLATE 11

a. SE 12-13-14, looking southwest (July, 1932).  
b. The same, looking southeast.

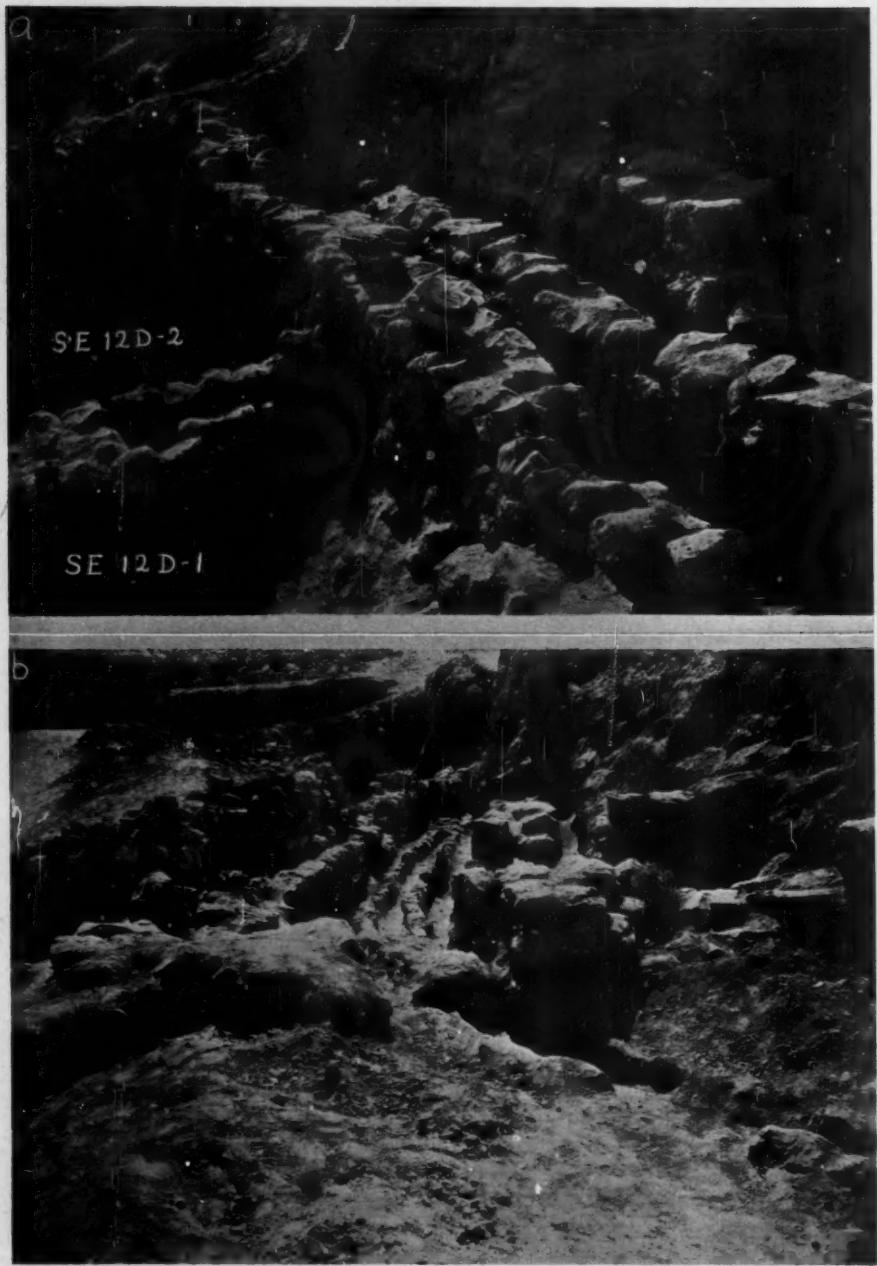


PLATE 12

- a. The drainage channel of D in SE 12, looking northwest.
- b. The same with the covering slabs removed, looking west.

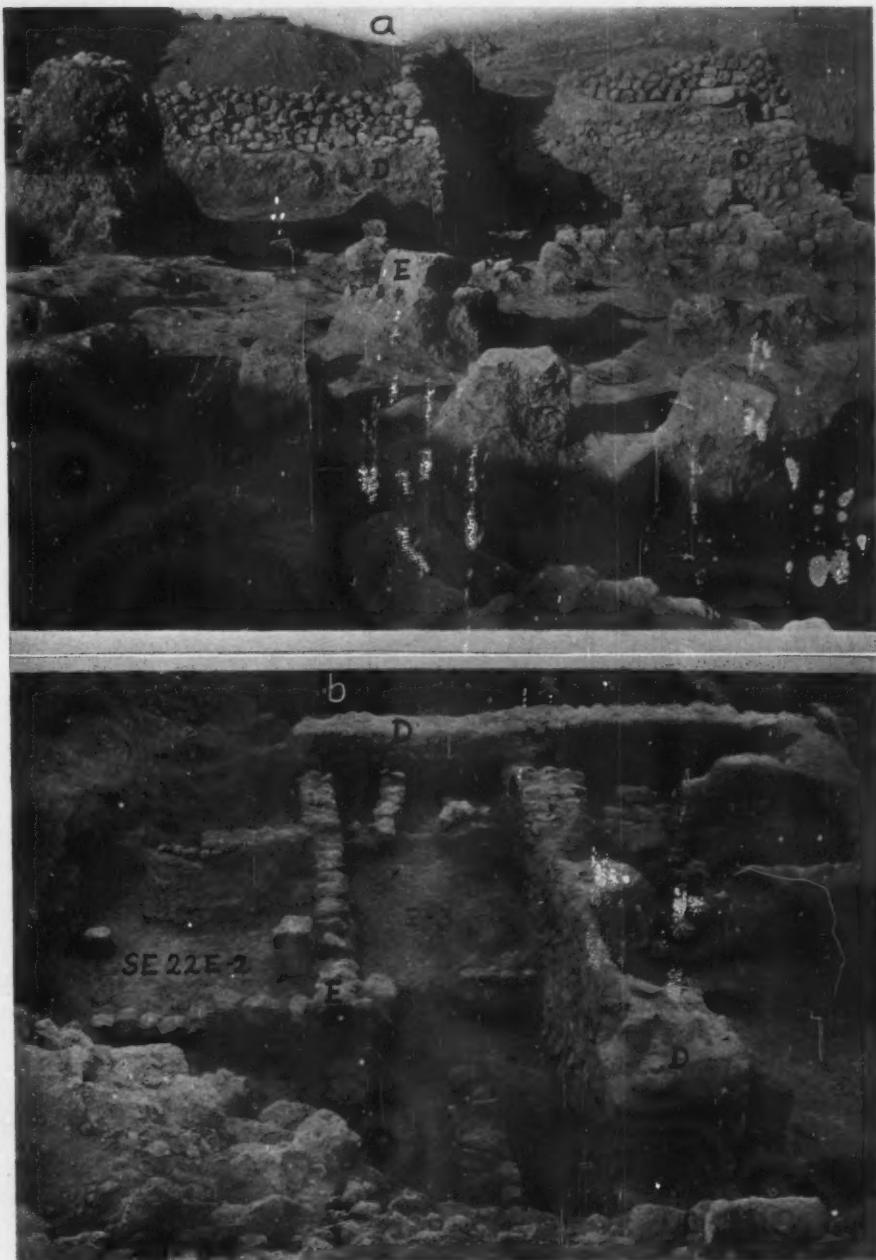


PLATE 13  
a. Remains from E and earlier date on the rock west of the D palace;  
in the center is an isolated plinth of E (looking northeast).  
b. Foundations of E in SE 22, looking southeast (July, 1932).

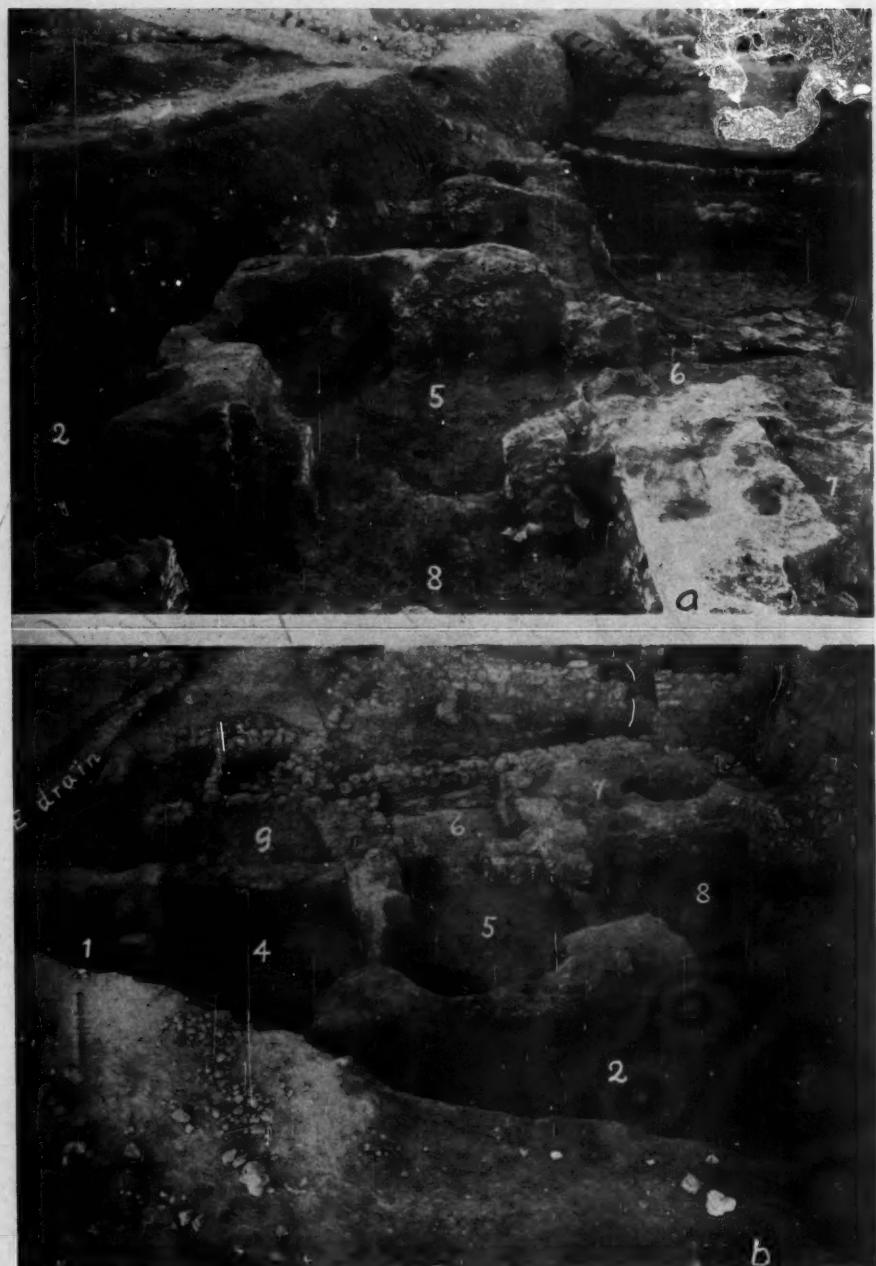


PLATE 14

a. The D "palace" in SE 22, looking south (August, 1930).  
b. The same, looking west.

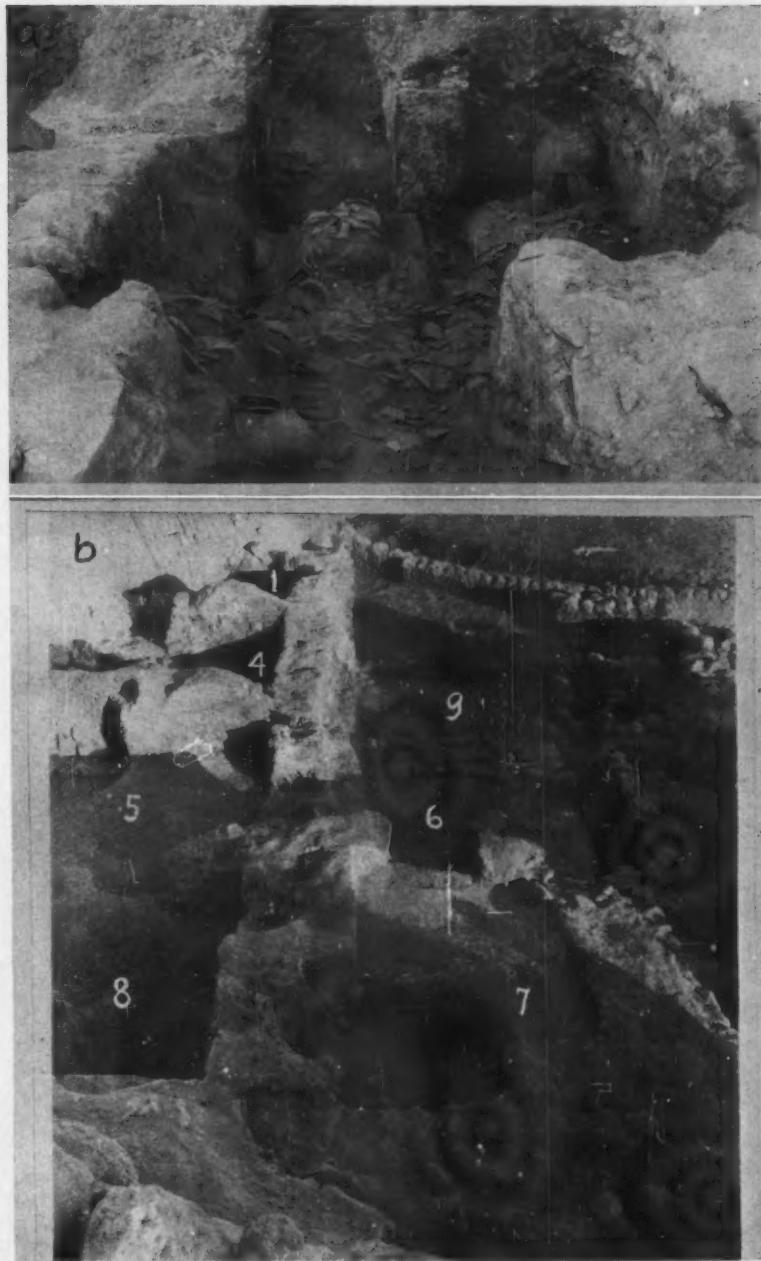


PLATE 15

a. SE 22 D-1, looking southwest (May, 1928).

b. The D "palace" in SE 22, looking southeast (August, 1930).



PLATE 16  
a. Corner made by the southern end of the M. B. bastion at the East Gate with the M. B. revetment (lower masonry is M. B. II, upper is Iron II), looking downward toward north (May, 1926).  
b. The same, from a different angle.  
c. M. B.-II masonry at the bottom of the revetment of the city-wall at the same point.



PLATE 17  
a. Stretch of revetment along southern side of mound, cleared in 1928;  
most of the masonry belongs to the Iron Age.  
b. Cut through the revetment in SW 4 (May, 1926).

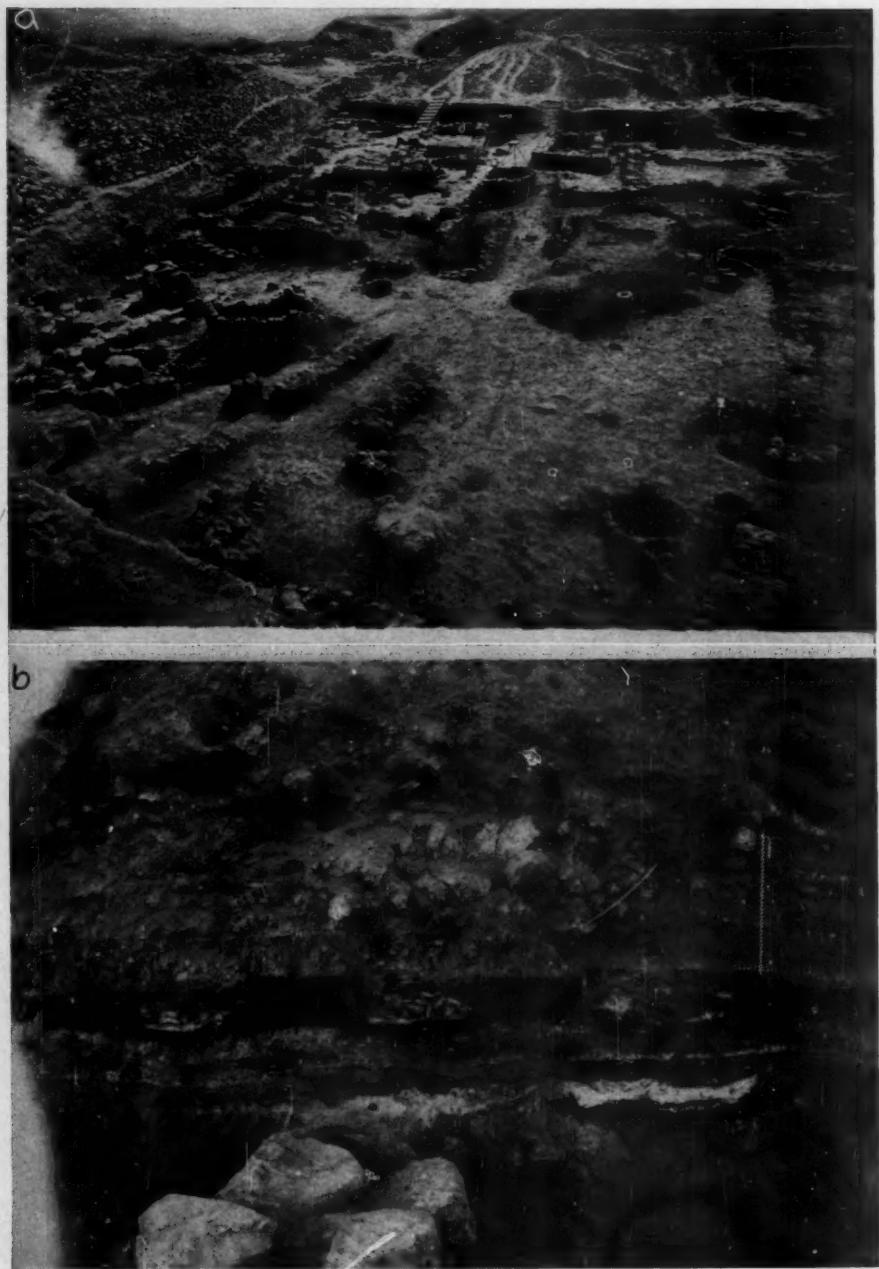
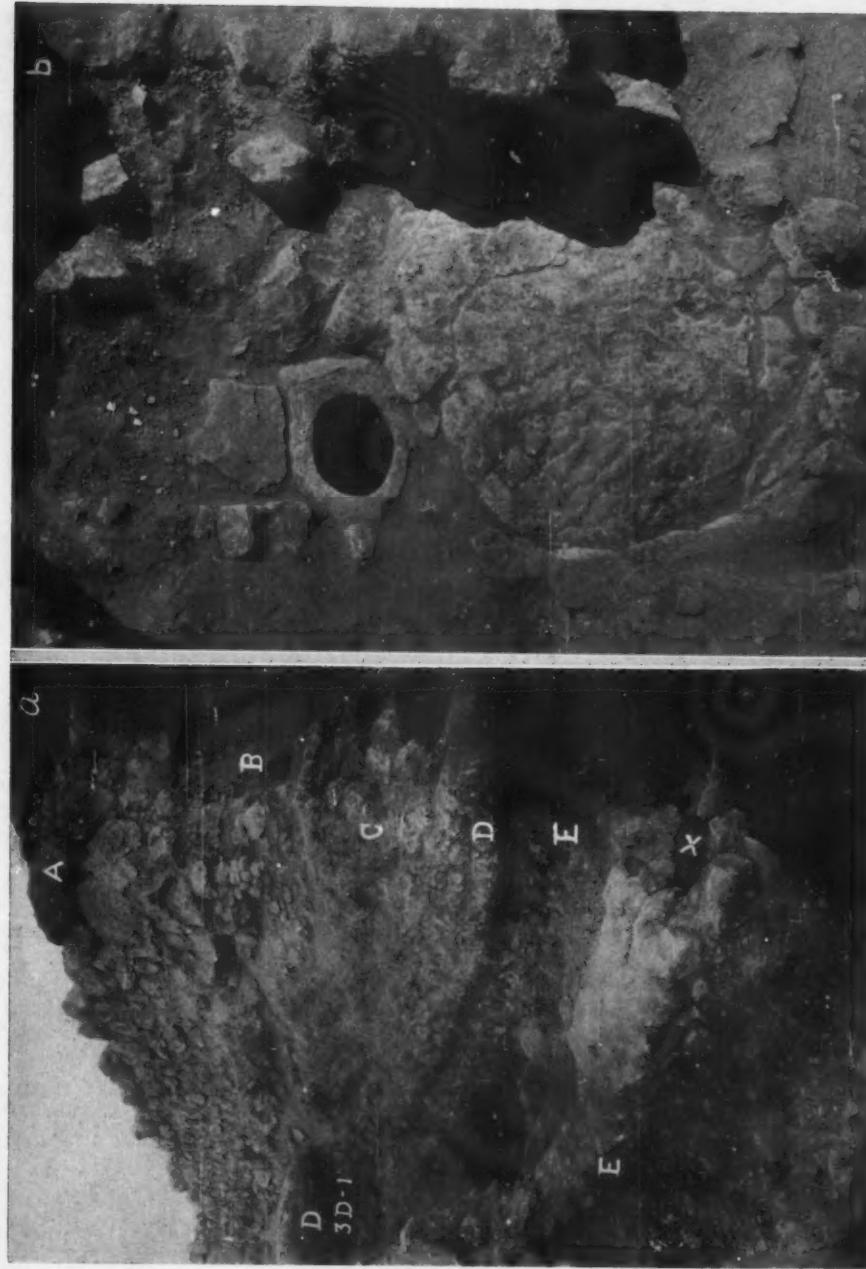


PLATE 18

a. Stratum C, looking northeast (July, 1930).  
b. Section of fallen C roof in SE 22 (August, 1930).



a. Stratigraphic section in SE 3, looking southwest (July, 1932).  
b. Olive-press in SE 23 C-10, from above.

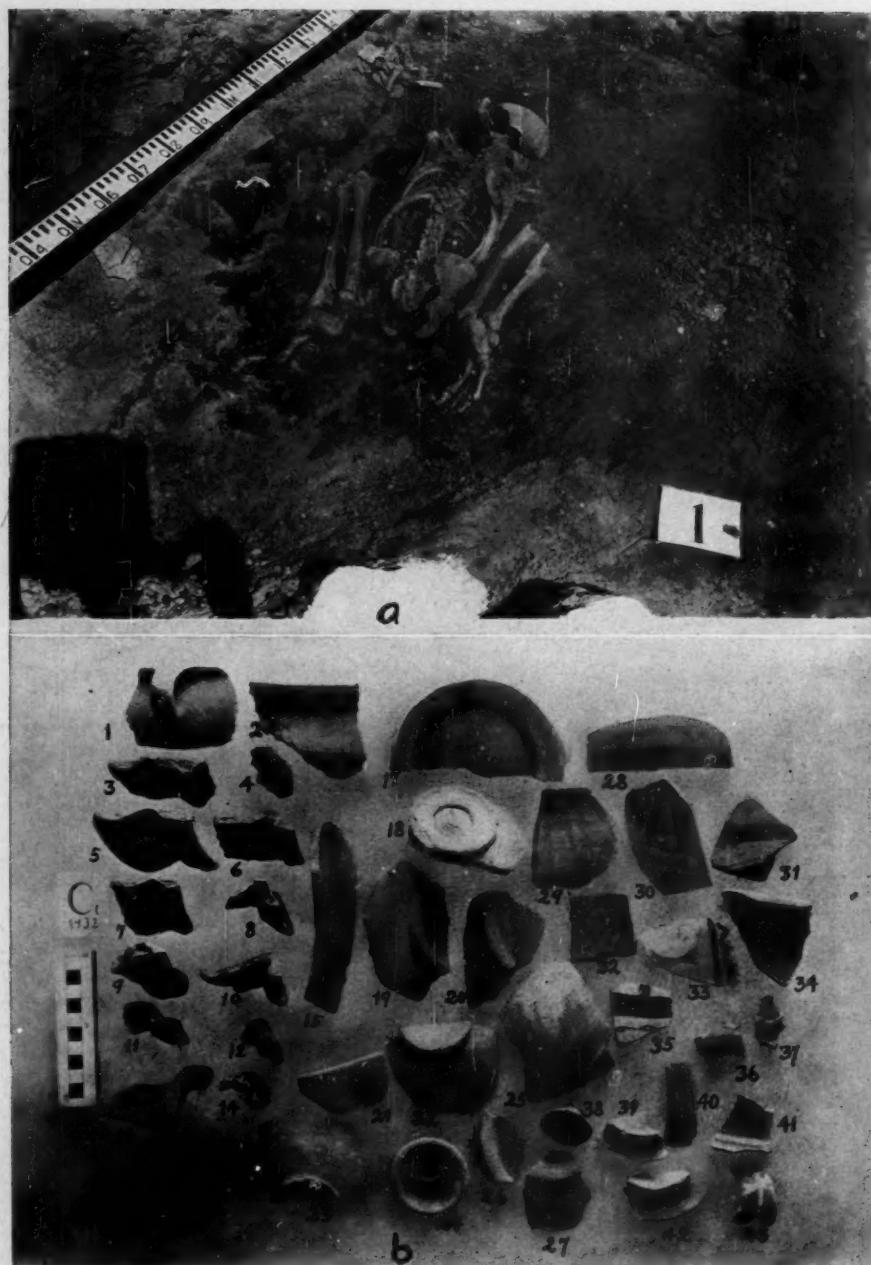


PLATE 20

a. E-D skeleton in sub SE 23 D-8.  
b. C<sub>1</sub> sherds from 1932 campaign.

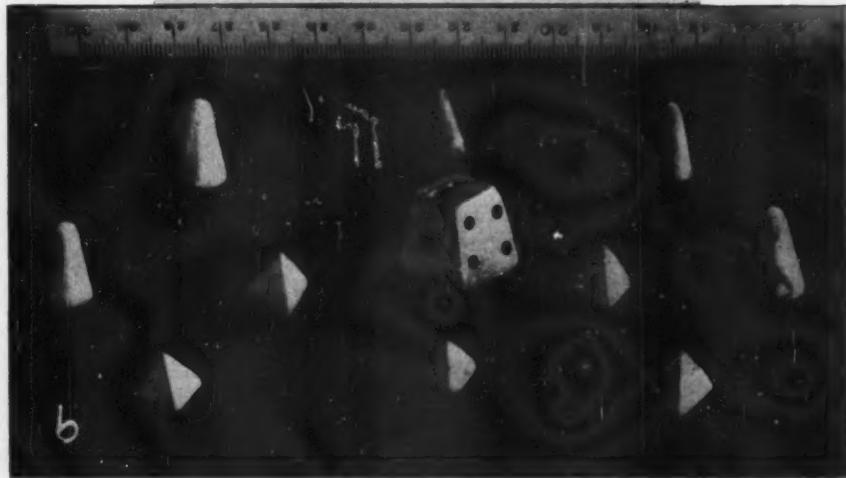


PLATE 21

a. Serpent-goddess (D).  
b. Playing pieces and teetotum (D).



PLATE 22      Schematic reconstruction of stela of  
serpent-goddess.



PLATE 23

Lion (C<sub>3</sub>).

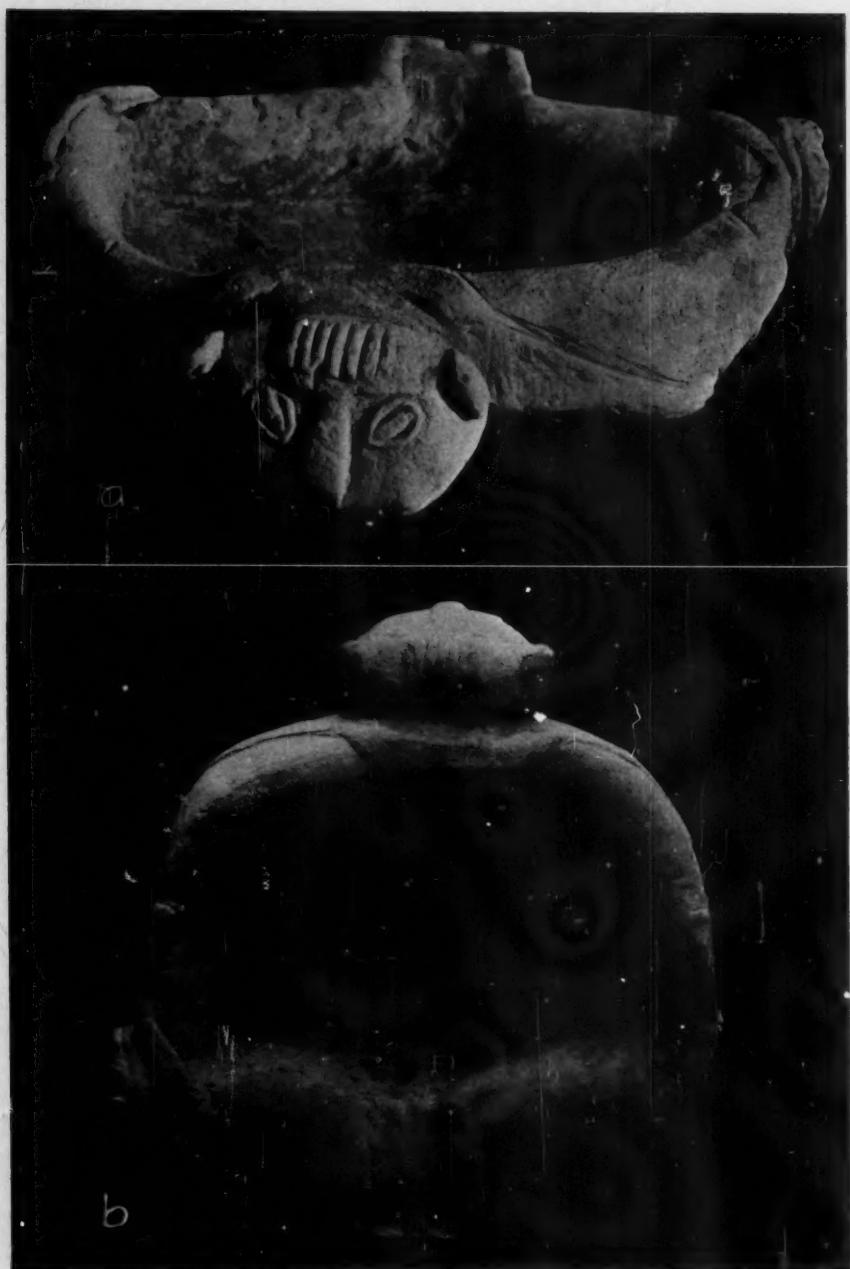


PLATE 24

a-b. Libation-tray (C<sub>2</sub>).

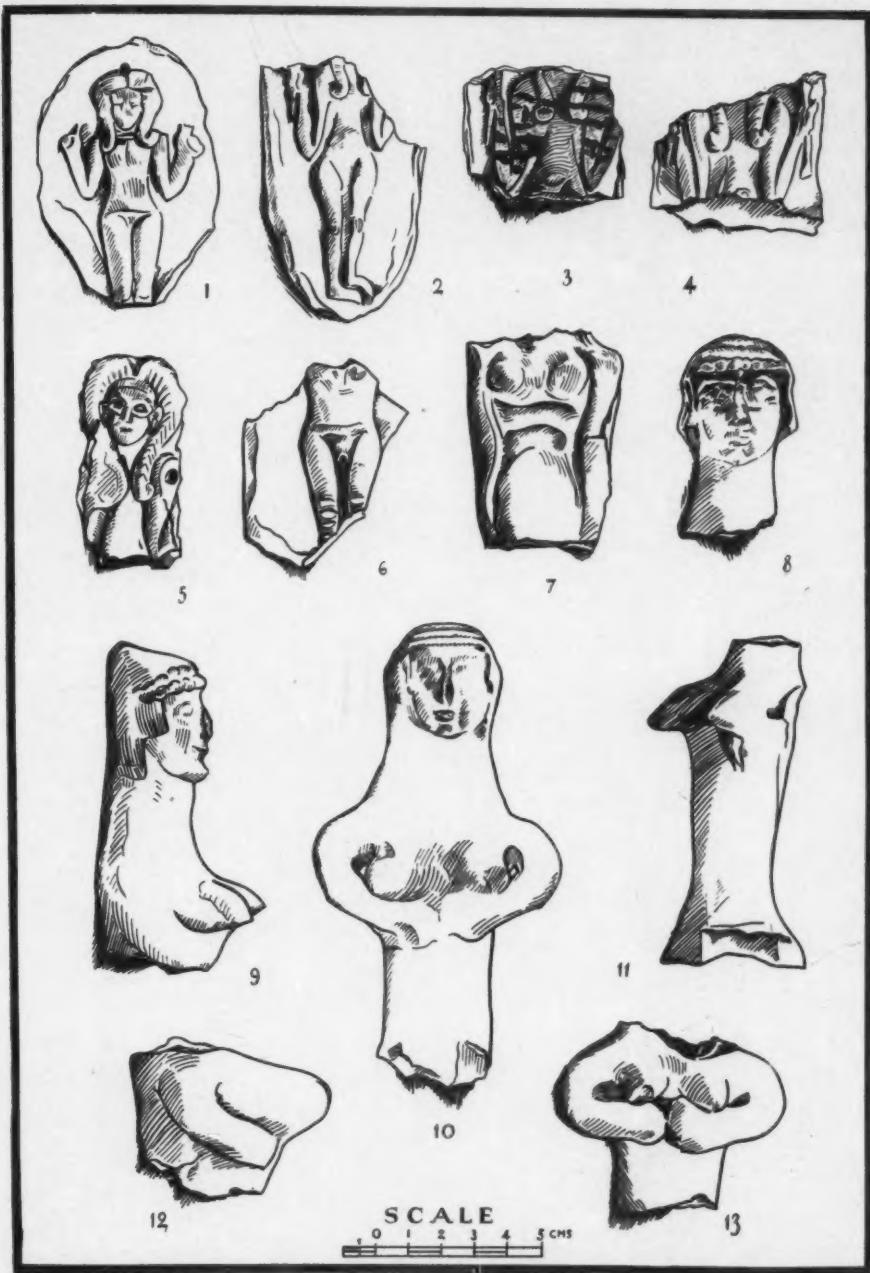


PLATE 25 Astarte plaques and figurines from 1928 (1-5 are from C; 6-7 from B, 8-13 from A).

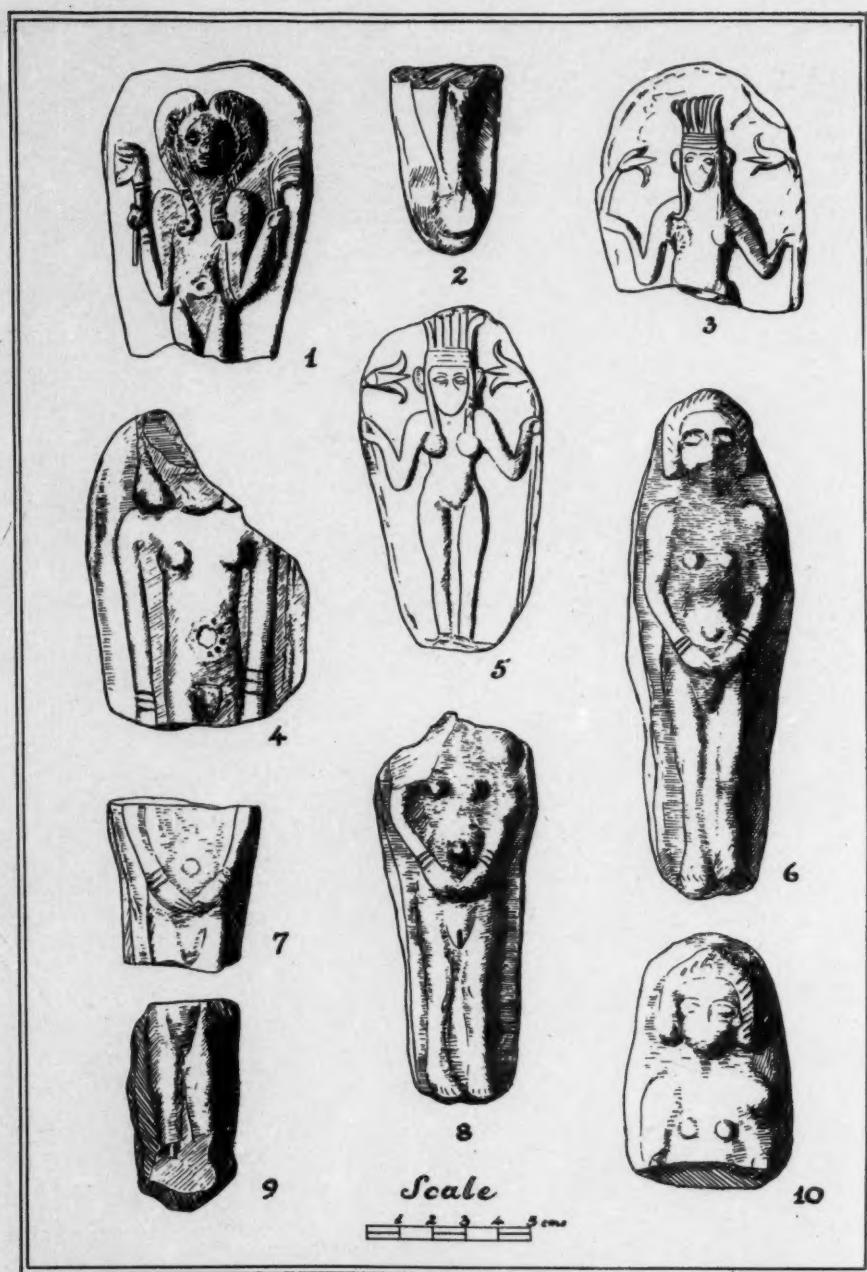


PLATE 26 Astarte plaques from 1930 (1-5 are from C, 6-10 from B).

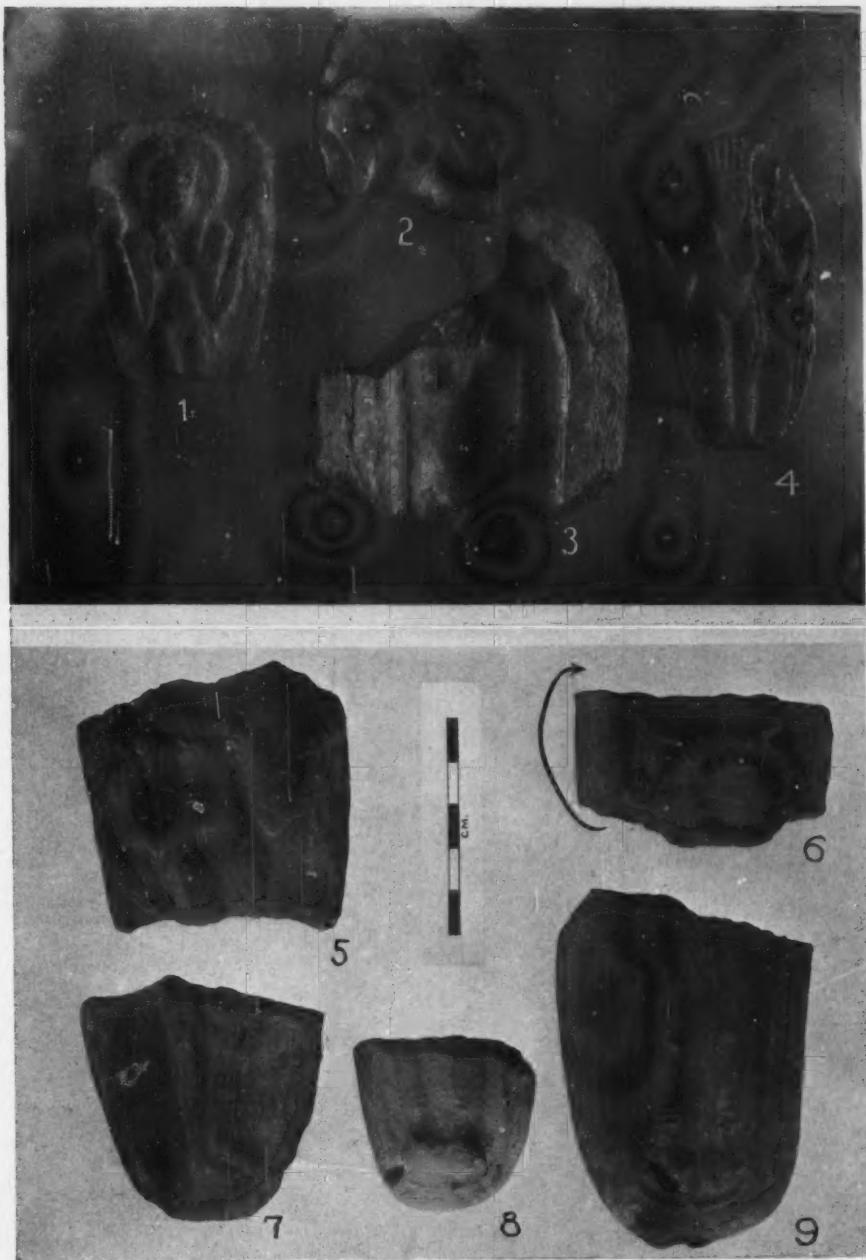


PLATE 27      Astarte plaques from 1930-32 (1-6 are from C, 7-9 from E-D).

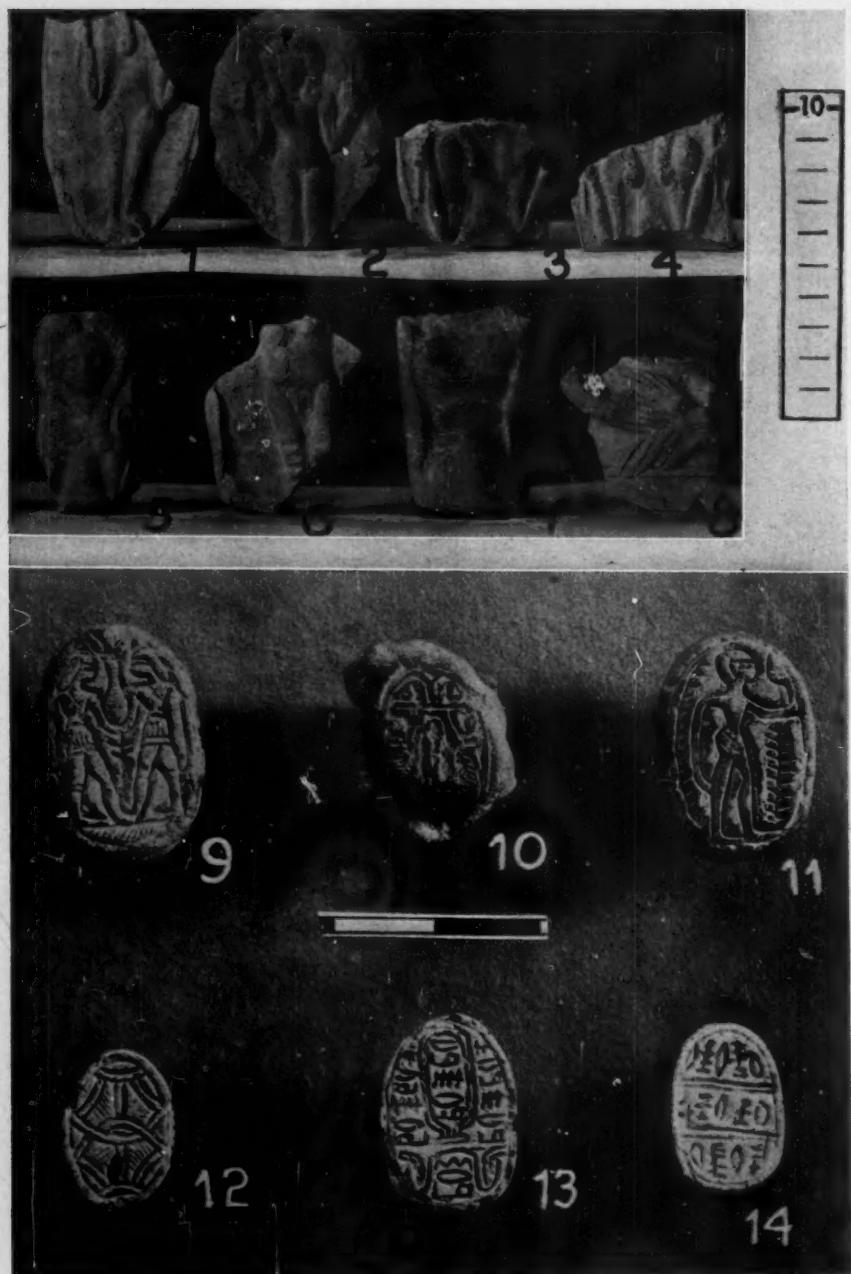


PLATE 28 Astarte plaques and scarabs (1-5 are from C, 6-8 from B, 9-14 from D).



PLATE 29 Scarabs from E-D (1-5, 7, 9 are from E; 6, 8, 10-13, 15, are from D; 14 is from E-D).

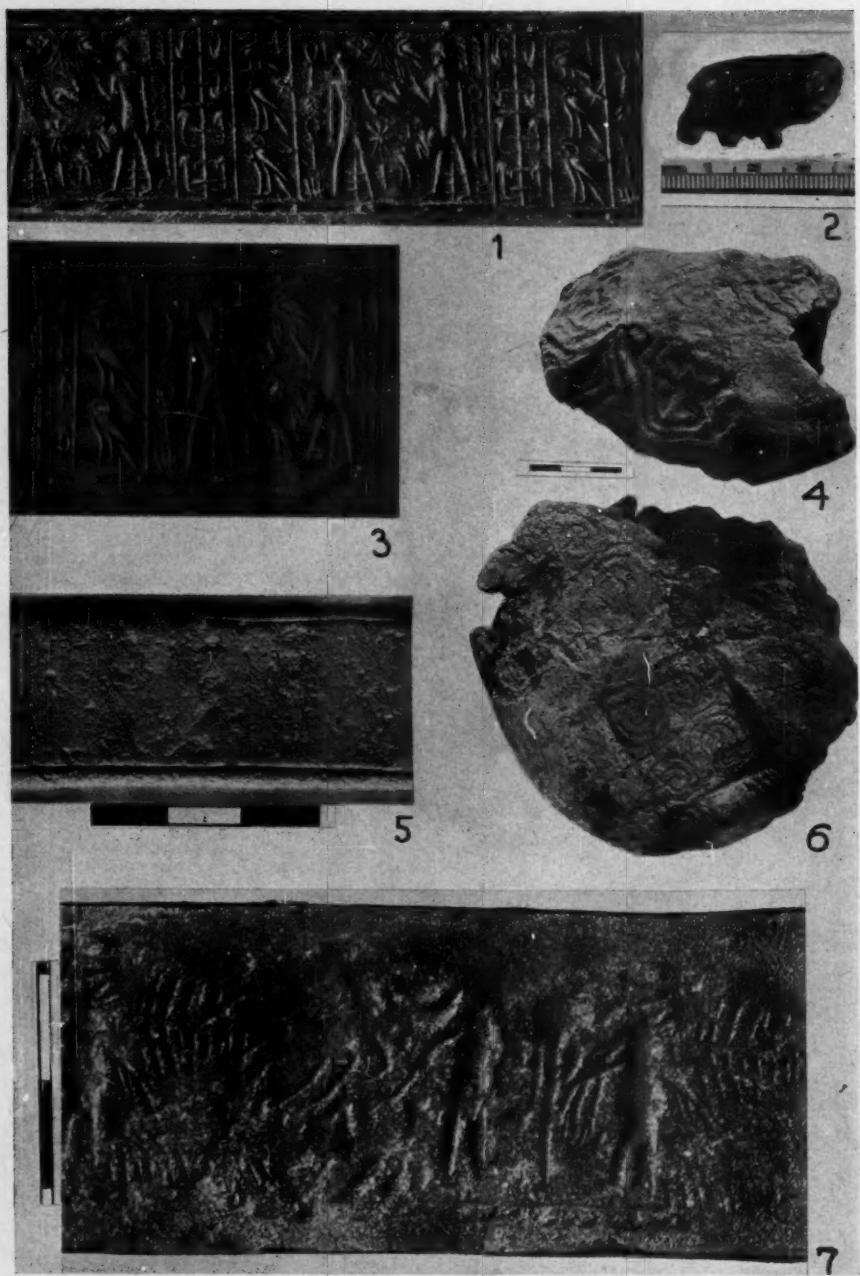
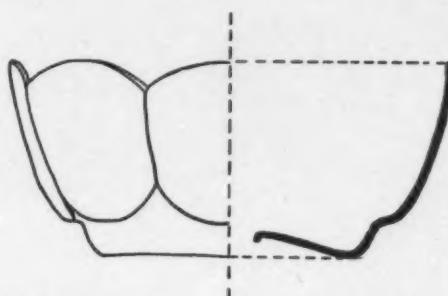


PLATE 30 Seals and sealings, etc., from E-D (1-3, 5, 7 are from E; 4, 6 are from D).



1



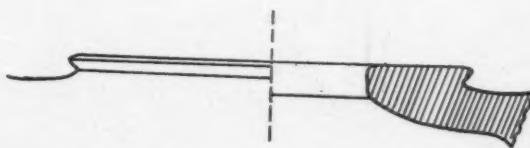
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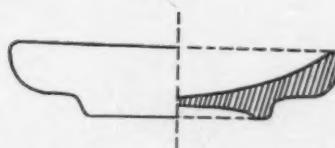
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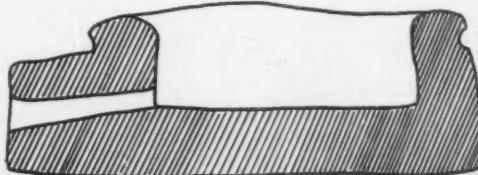
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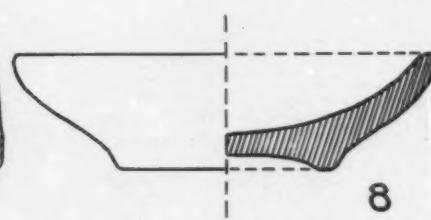
5



6



7



8

PLATE 31 Miscellaneous objects (5 is E or earlier; 1, 3-4, 7 are from D; 2, 6, 8 are from C).

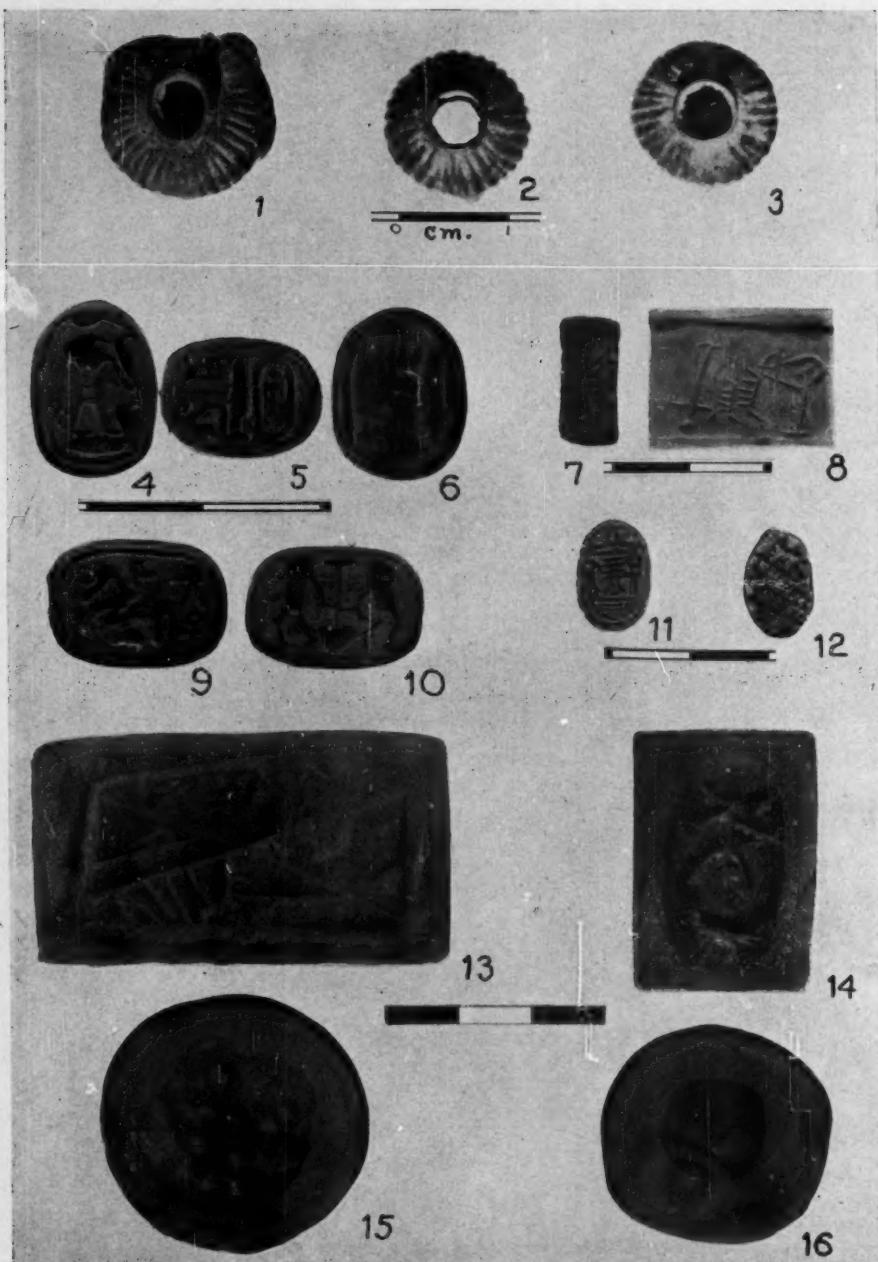
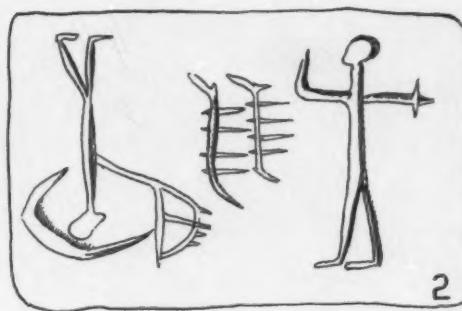


PLATE 32 Jewelry, seals, and seal-impressions (1-3 are from D<sub>1</sub>; 15 is from D or C; the rest are certainly or probably from C).



1



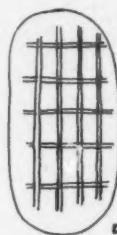
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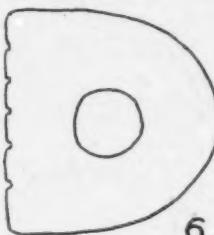
3



4



5



6



7



8

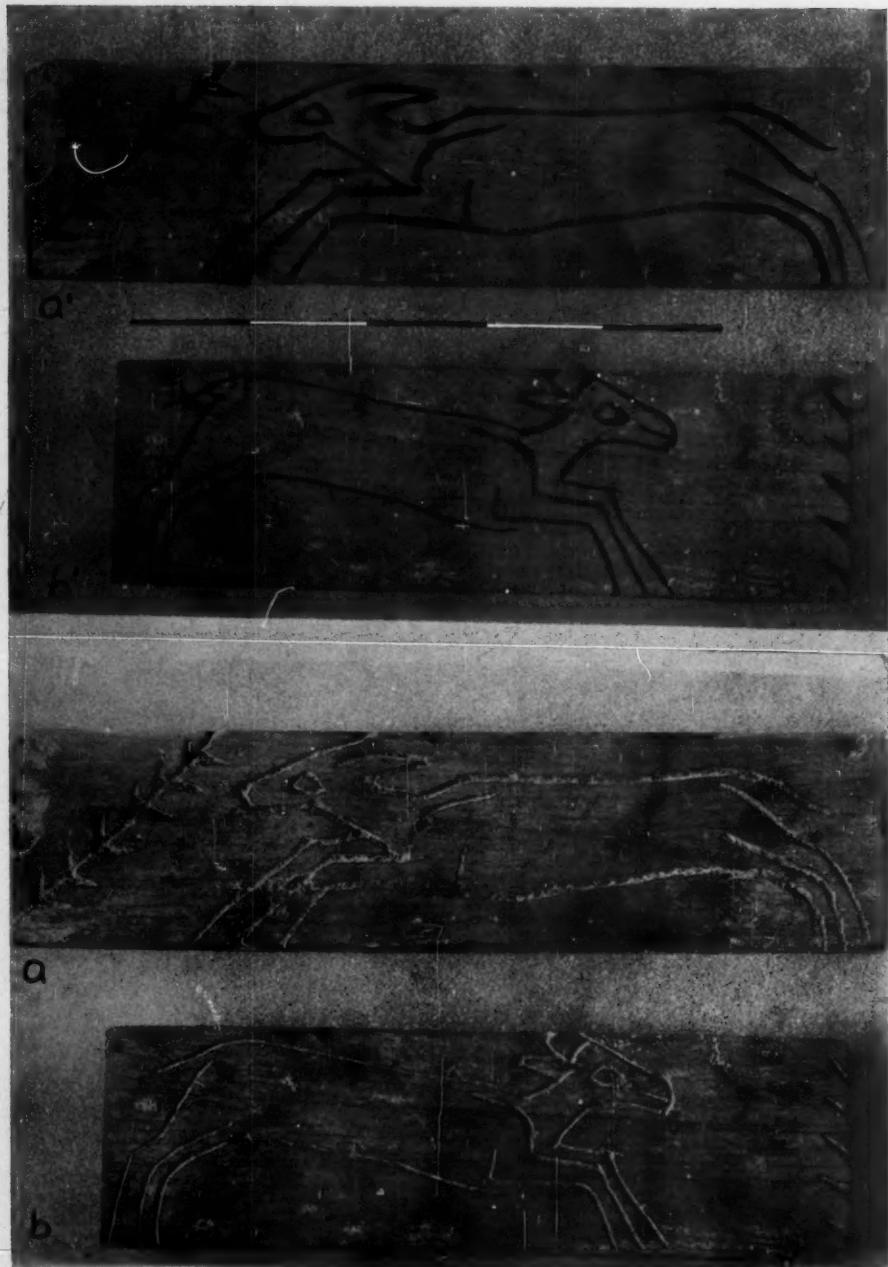
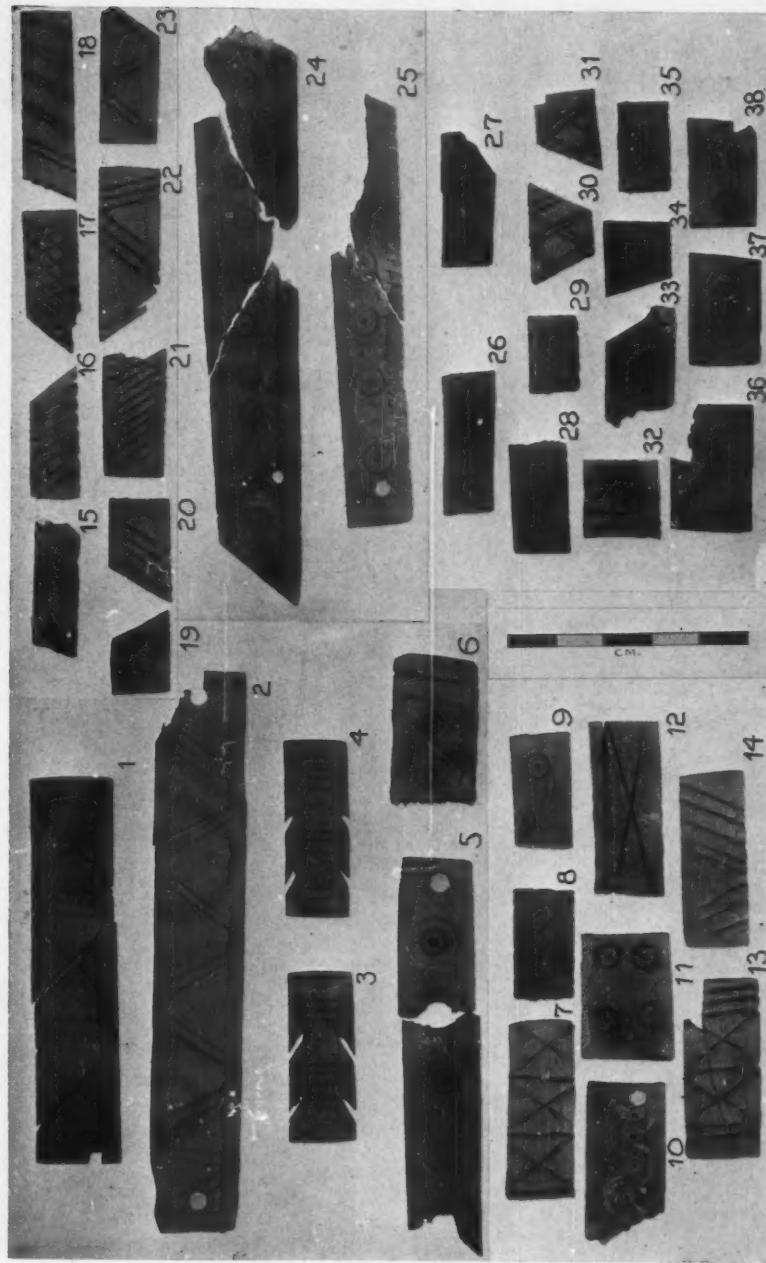


PLATE 34

Figured bone inlay from D<sub>1</sub>.



Bone inlay from E.D.

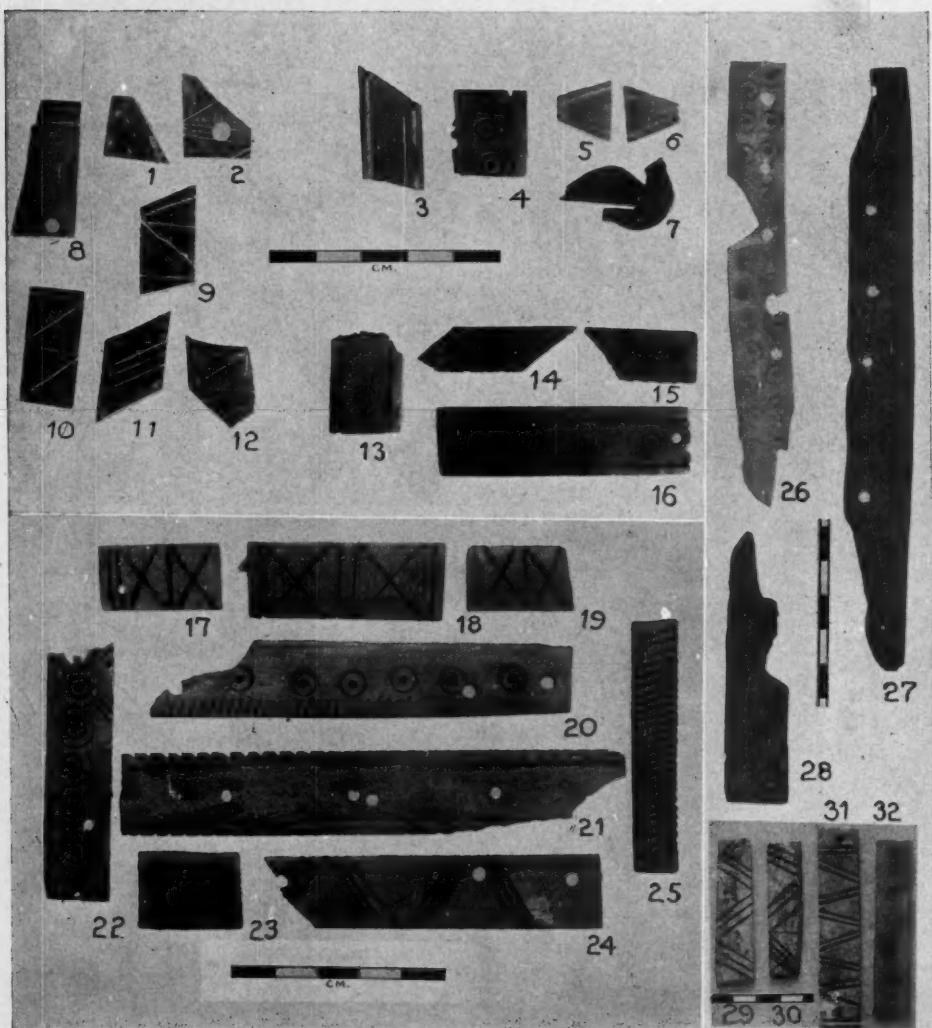


PLATE 36

Bone inlay from E-D.

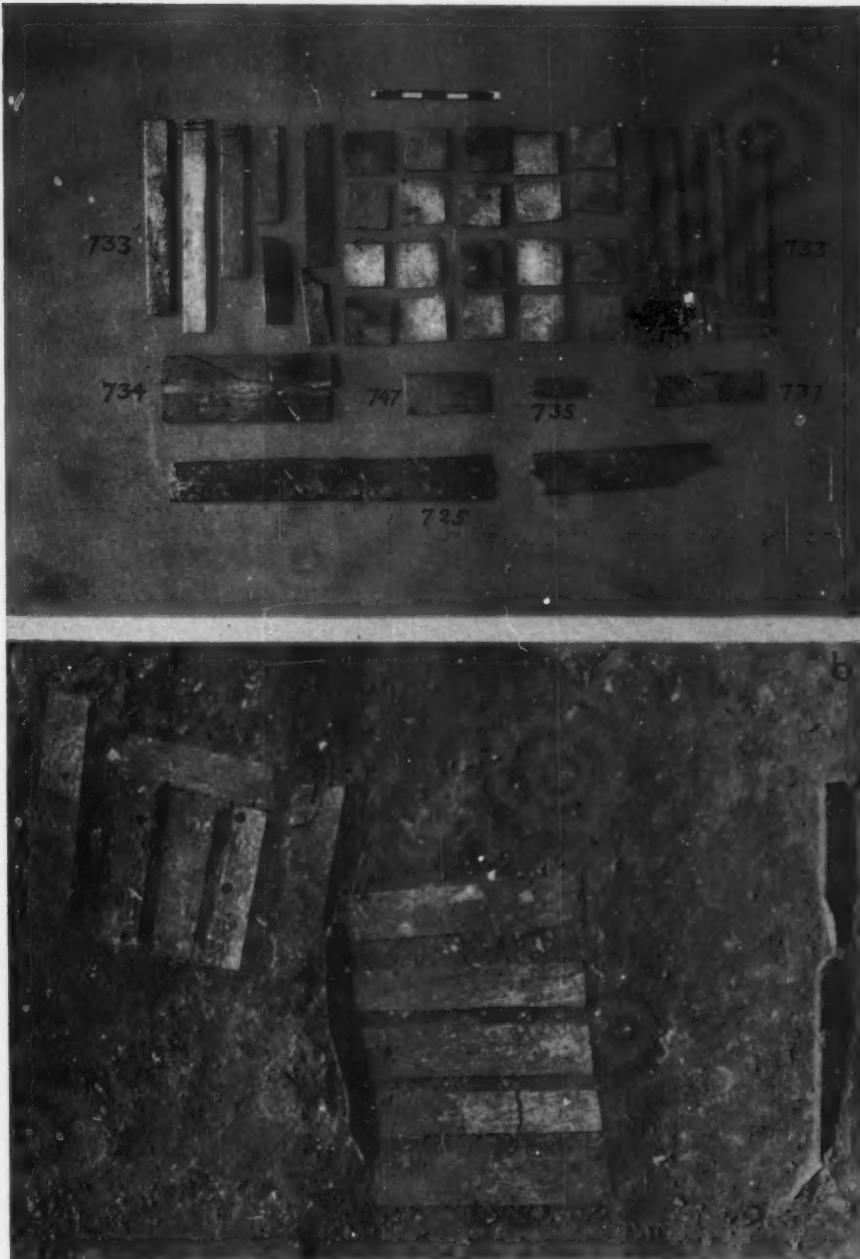


PLATE 37

- a. Inlay from game-board (above), miscellaneous inlay (below), all from D.
- b. Inlay from broken box of D in position as found,

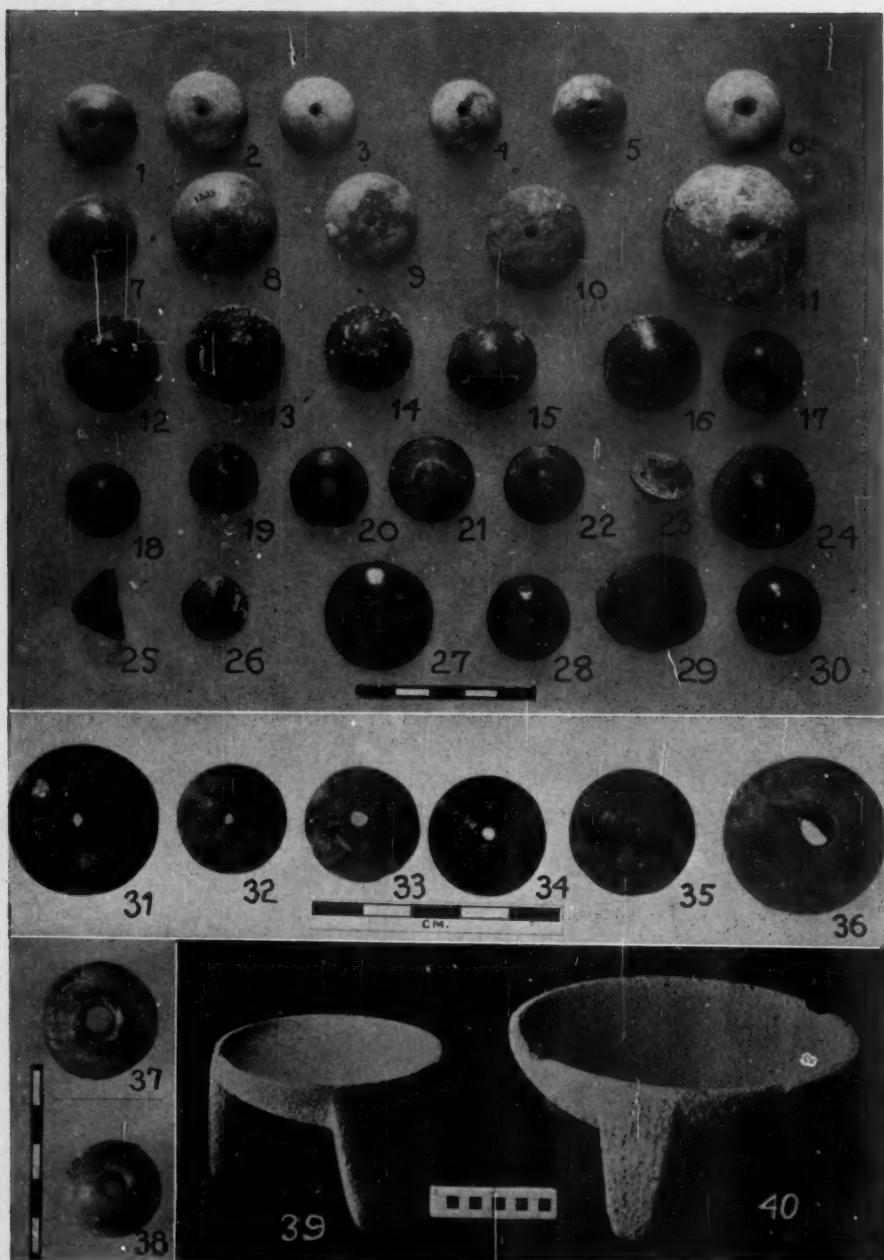


PLATE 38

Spindle-whorls from D-B (1-38), lava mortars from E (39-40).

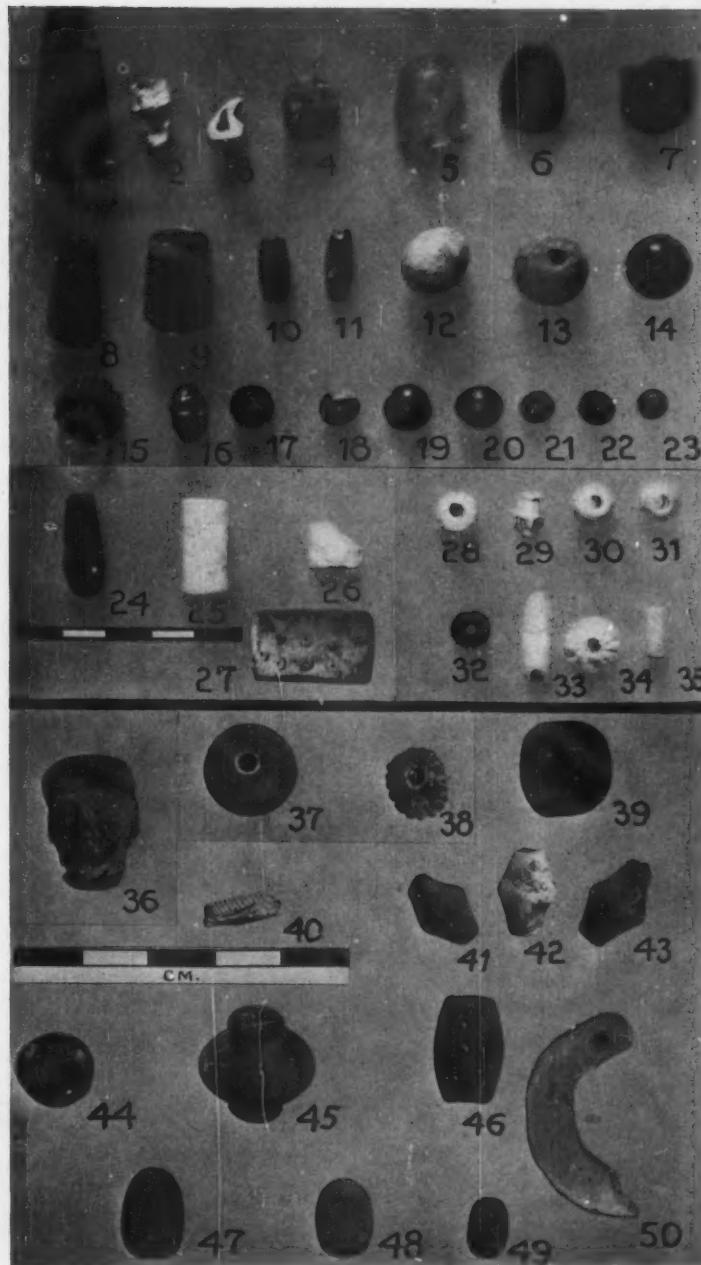


PLATE 39

Miscellaneous beads and pendants.

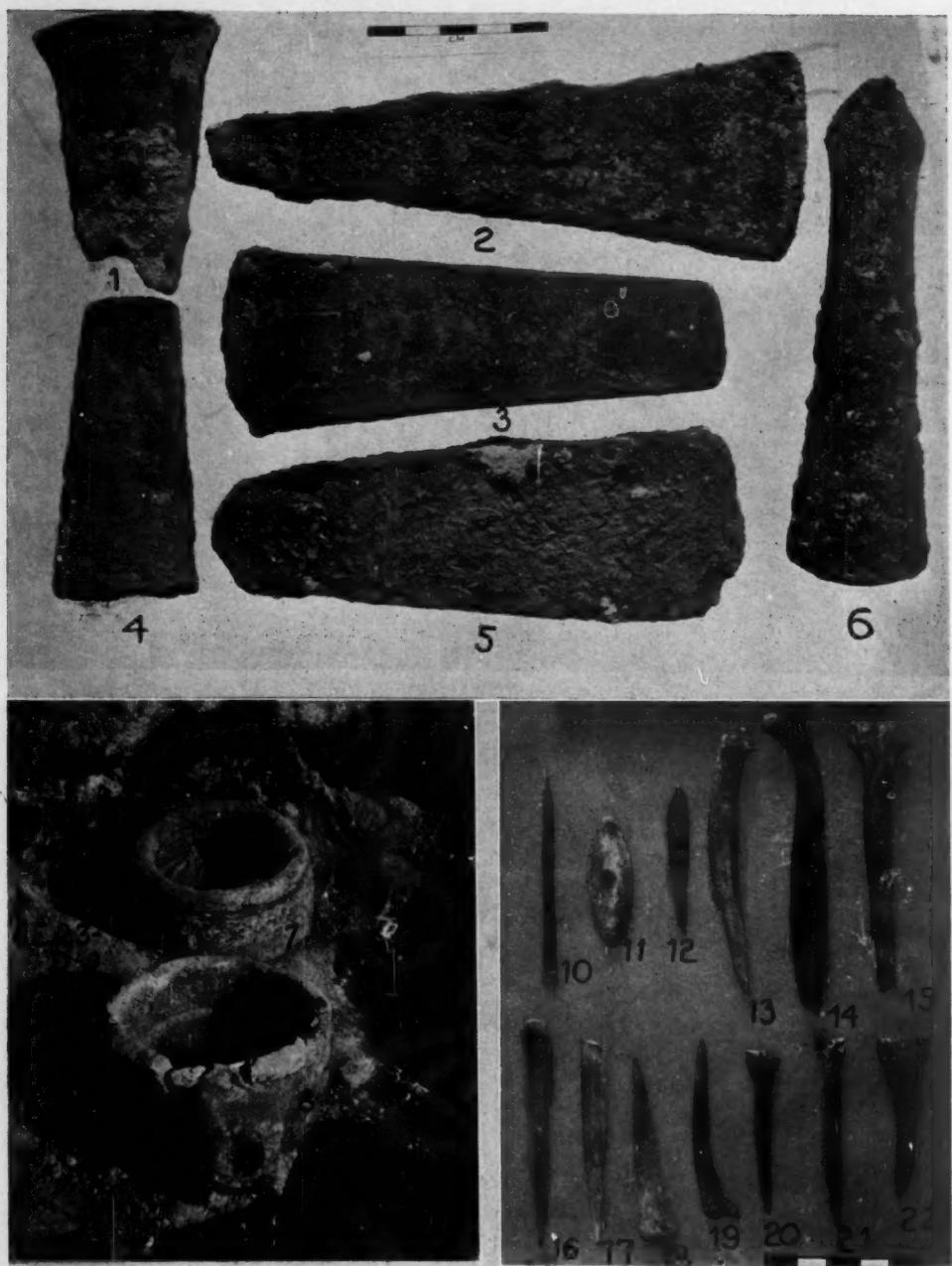


PLATE 40 Axe-heads and adze-heads from E-D (1-6), crucibles from D (7-8), bone awls, etc., from various strata (10-22).

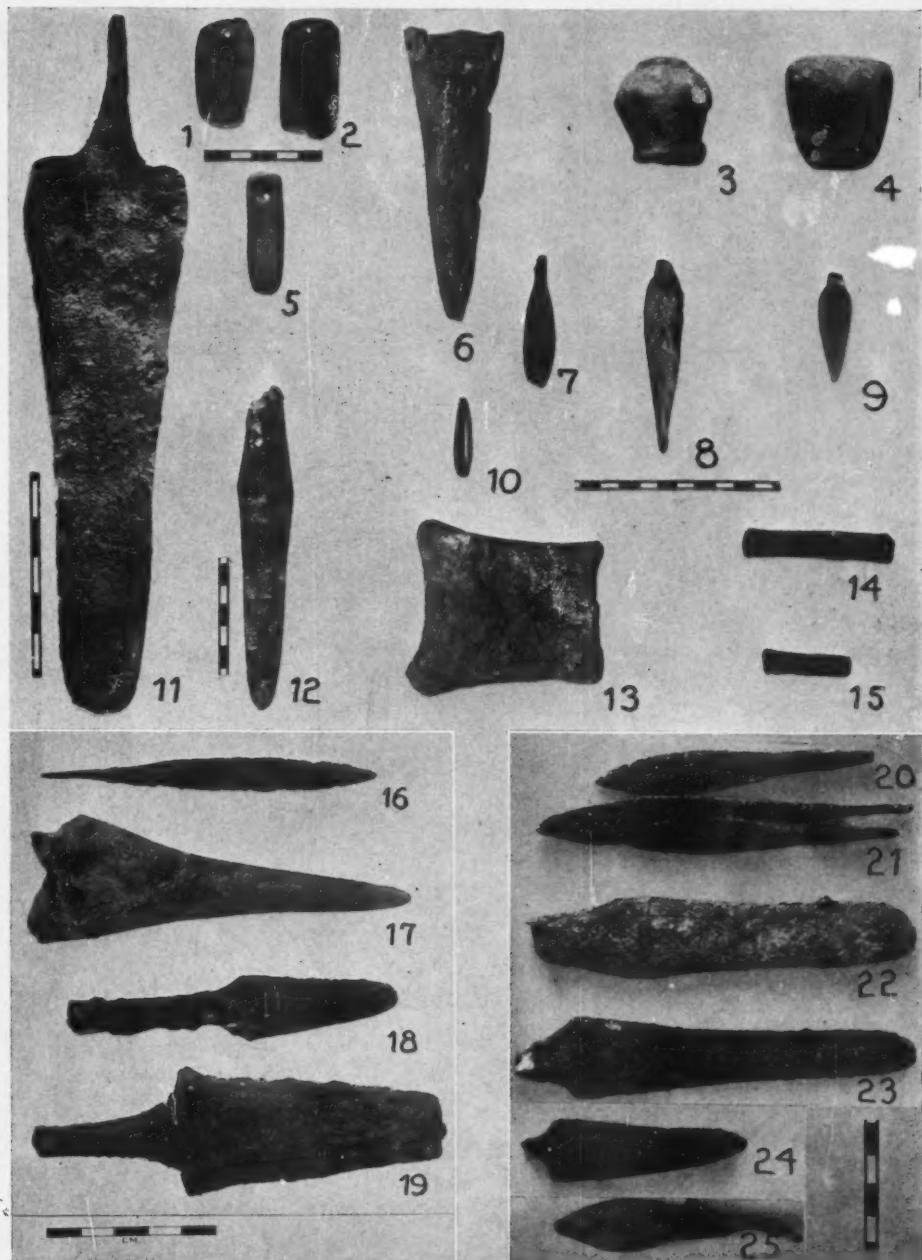


PLATE 41 Copper weapons and objects from D-C (3-4, 6, 8-11, 13-14, 16-19, 24 are certainly or probably from D).

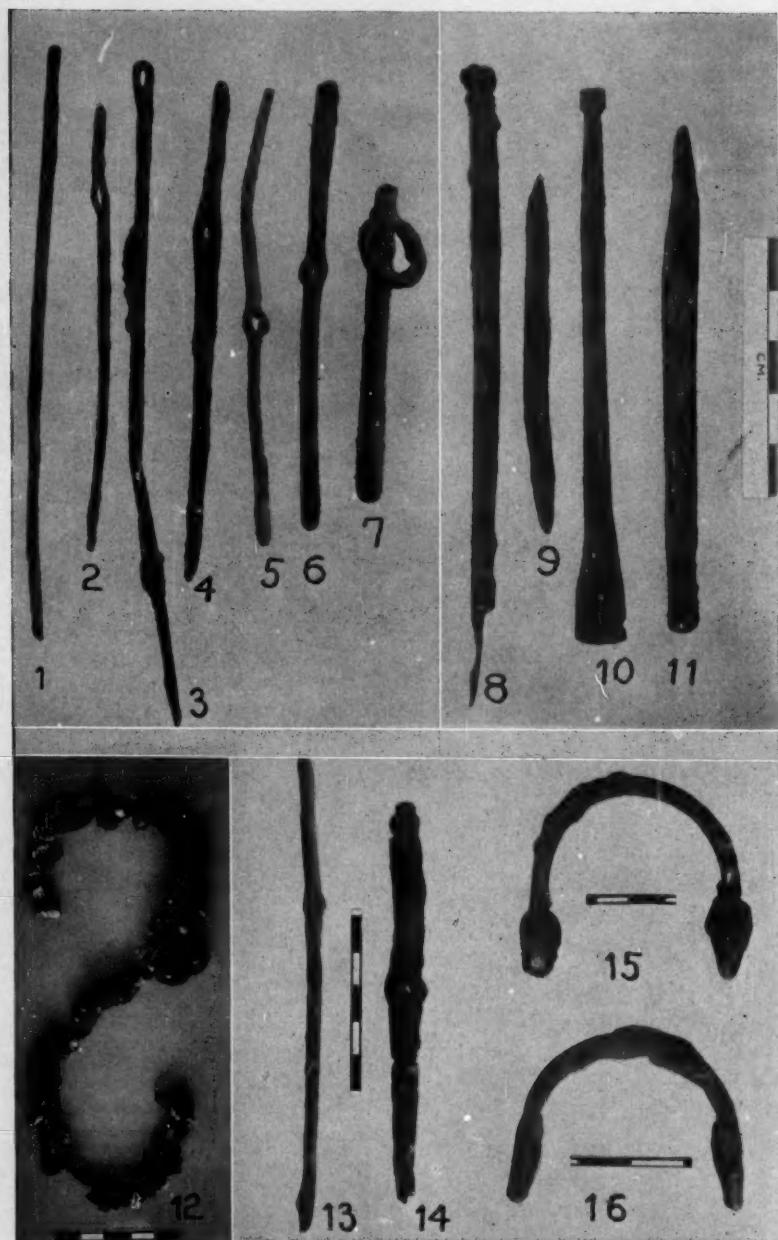


PLATE 42 Copper tools and ornaments from various periods (H-D:  
4, 8, 9 are anterior to E).



Limestone moulds for copper objects (a, c are G-F; b, d are D).

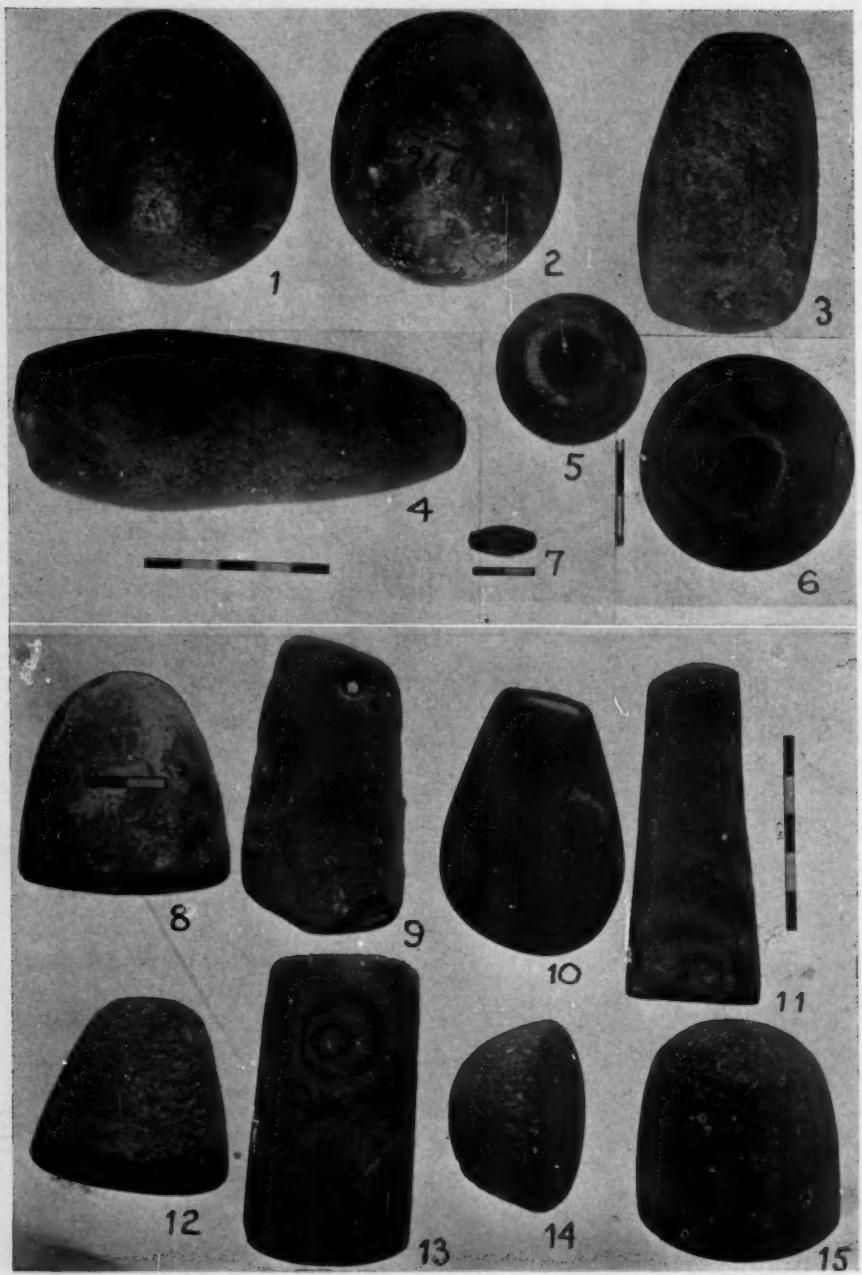
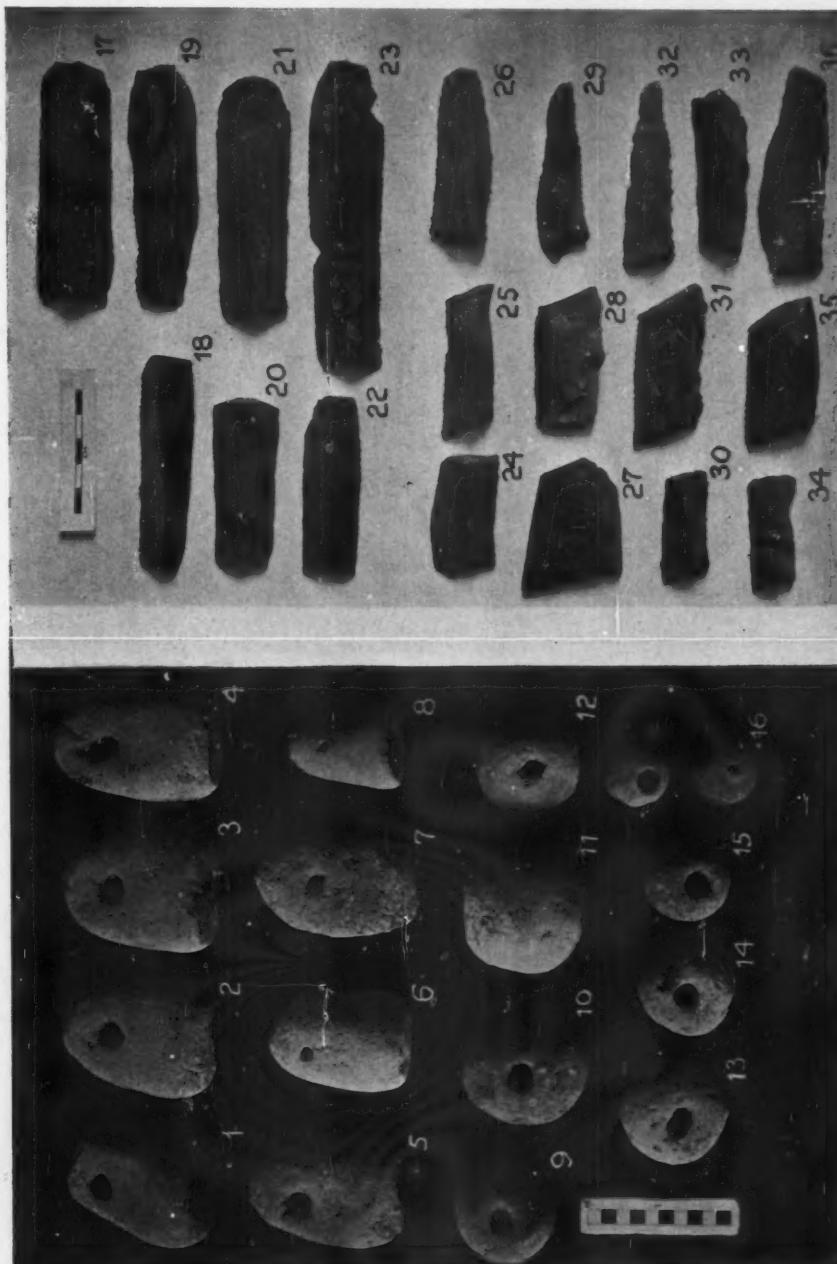
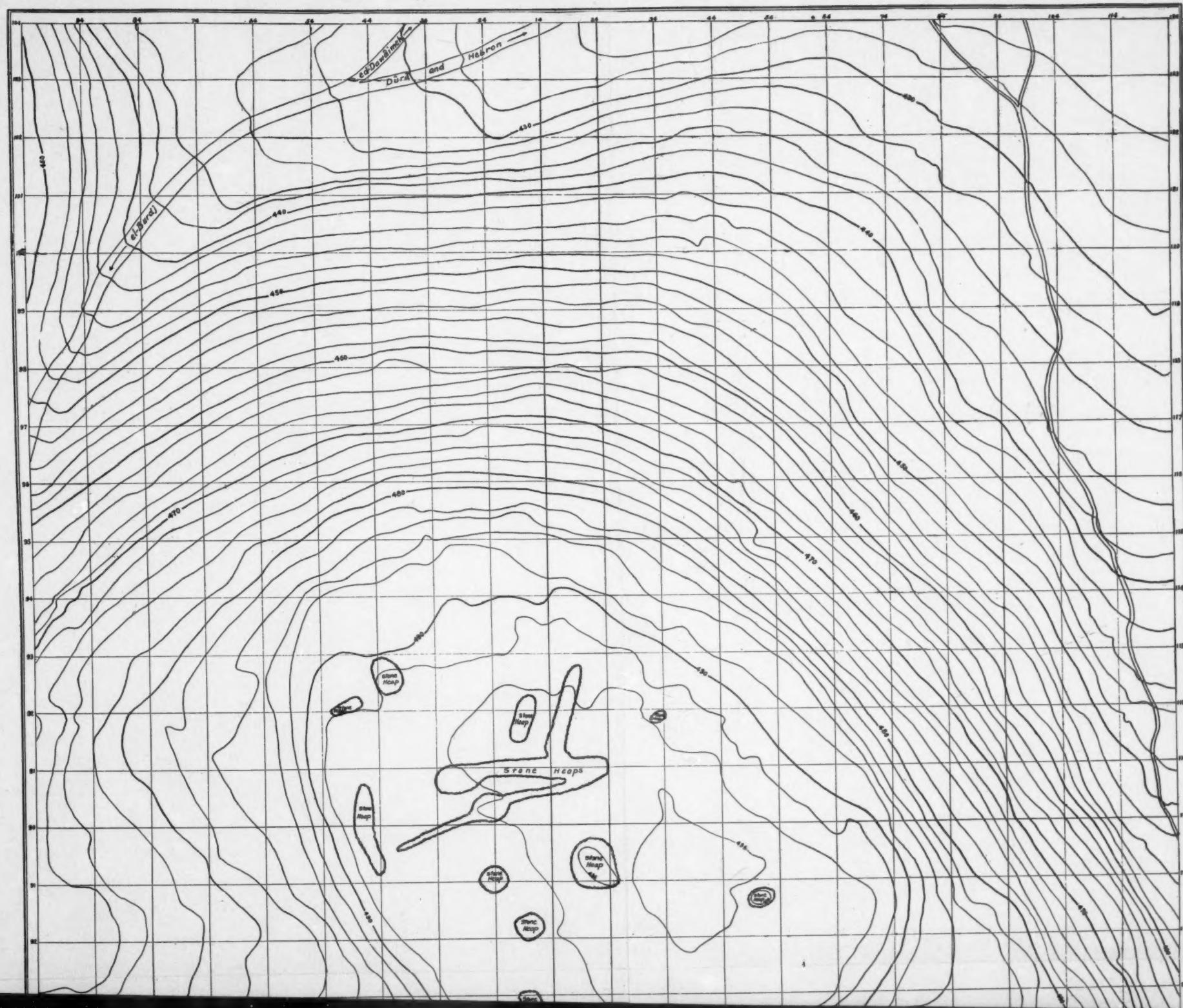


PLATE 44 Stone objects from various periods (all are E-D except 9, 11, 14).



Terra-cotta loom-weights (1-8 are from D, 9-16 from A), flints from various periods.

PLATE 45



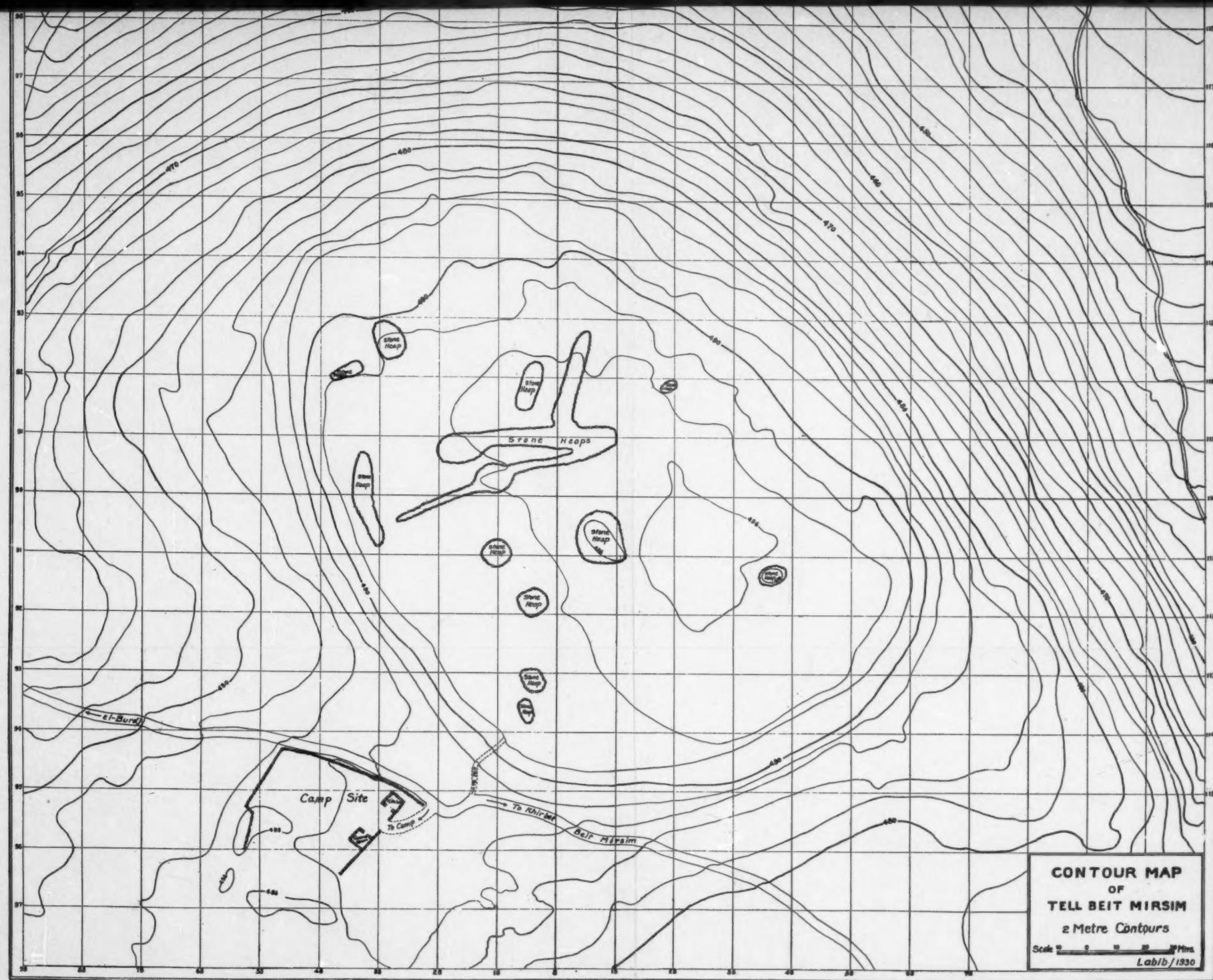


PLATE 46

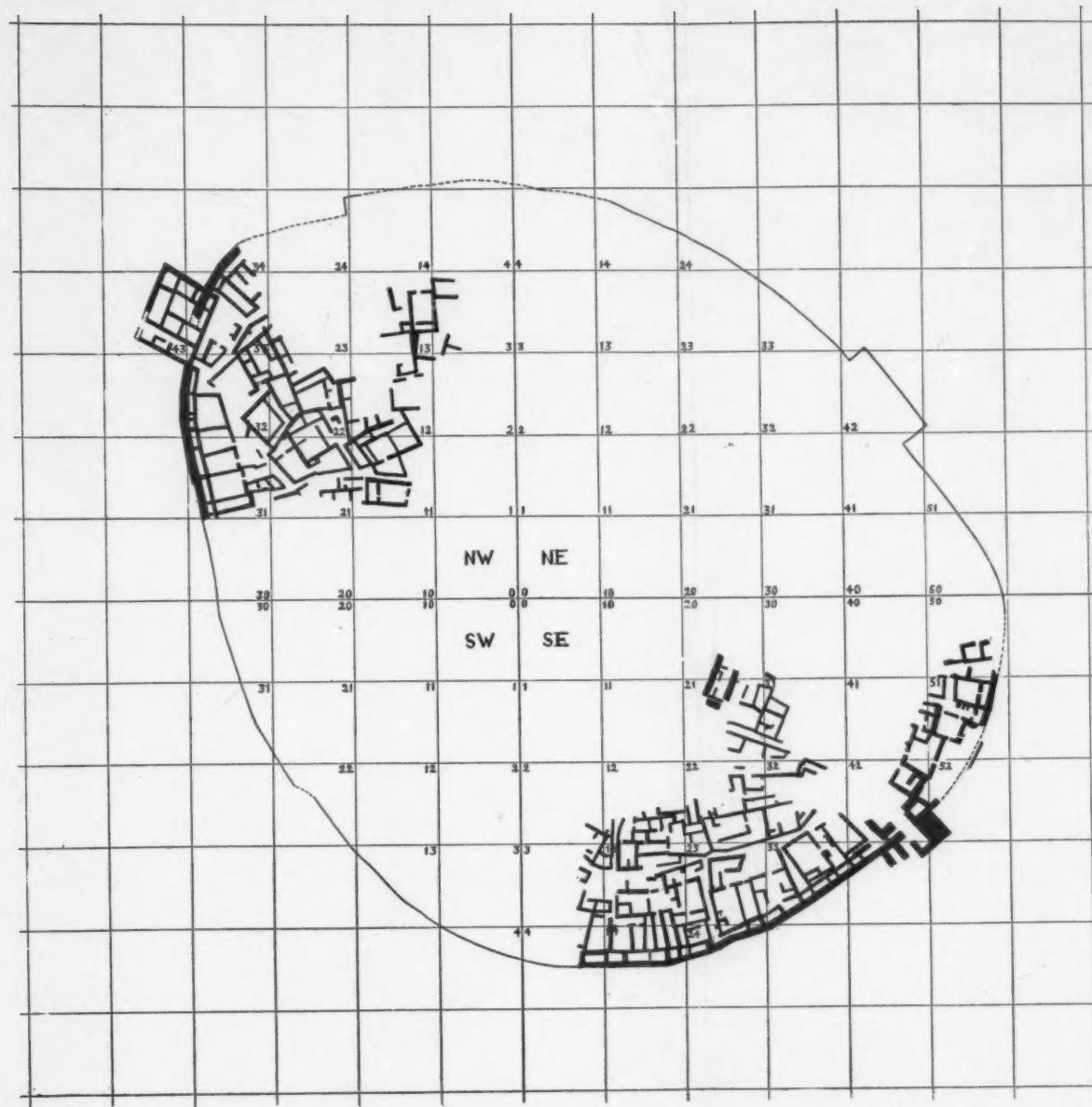


PLATE 47

Schematic plan with walls of A in outline.

TELL BEIT MIRSIM  
SECTION SE  
BED-ROCK LEVEL

42

32

22

43

23

44

34

24



North arrow pointing upwards.

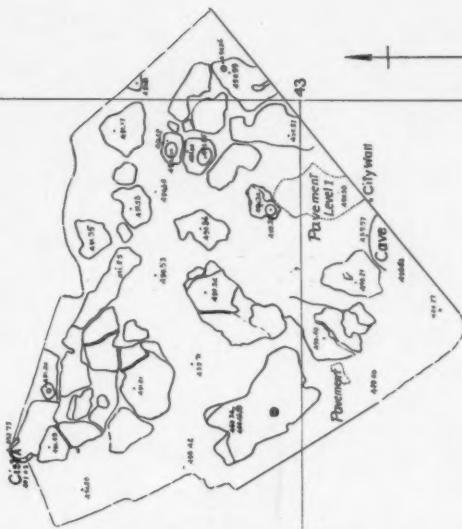


PLATE 48

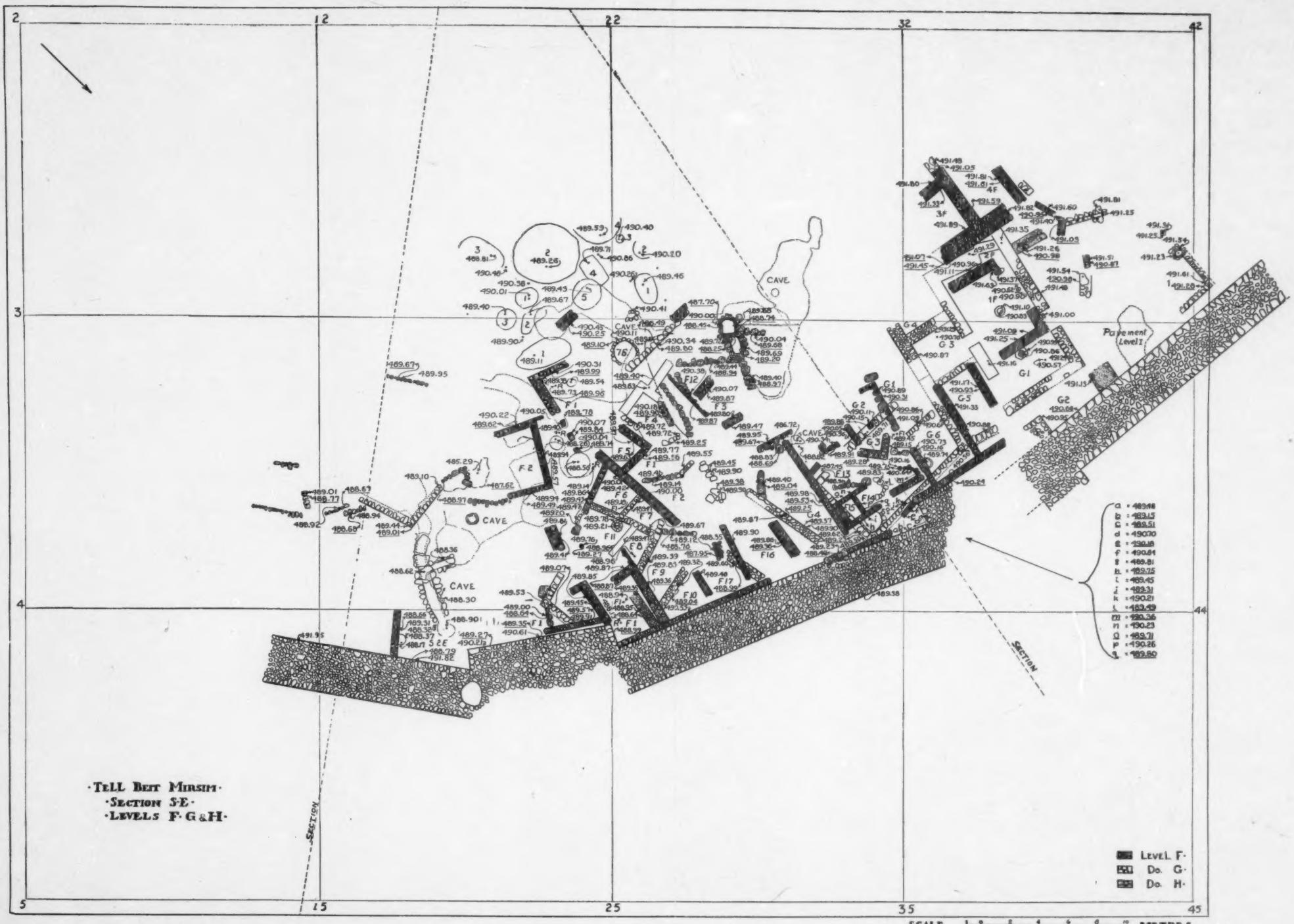


PLATE 49

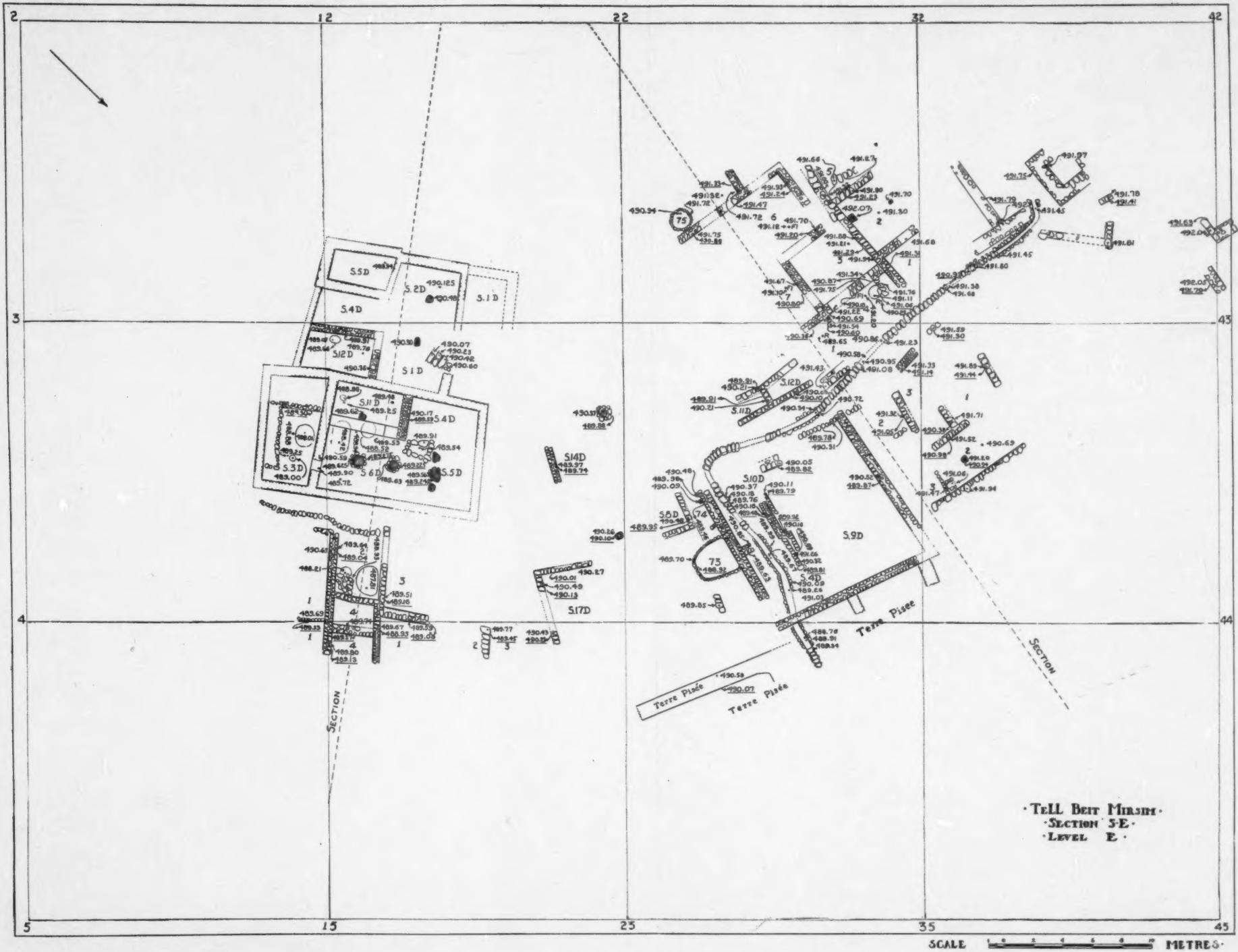


PLATE 50

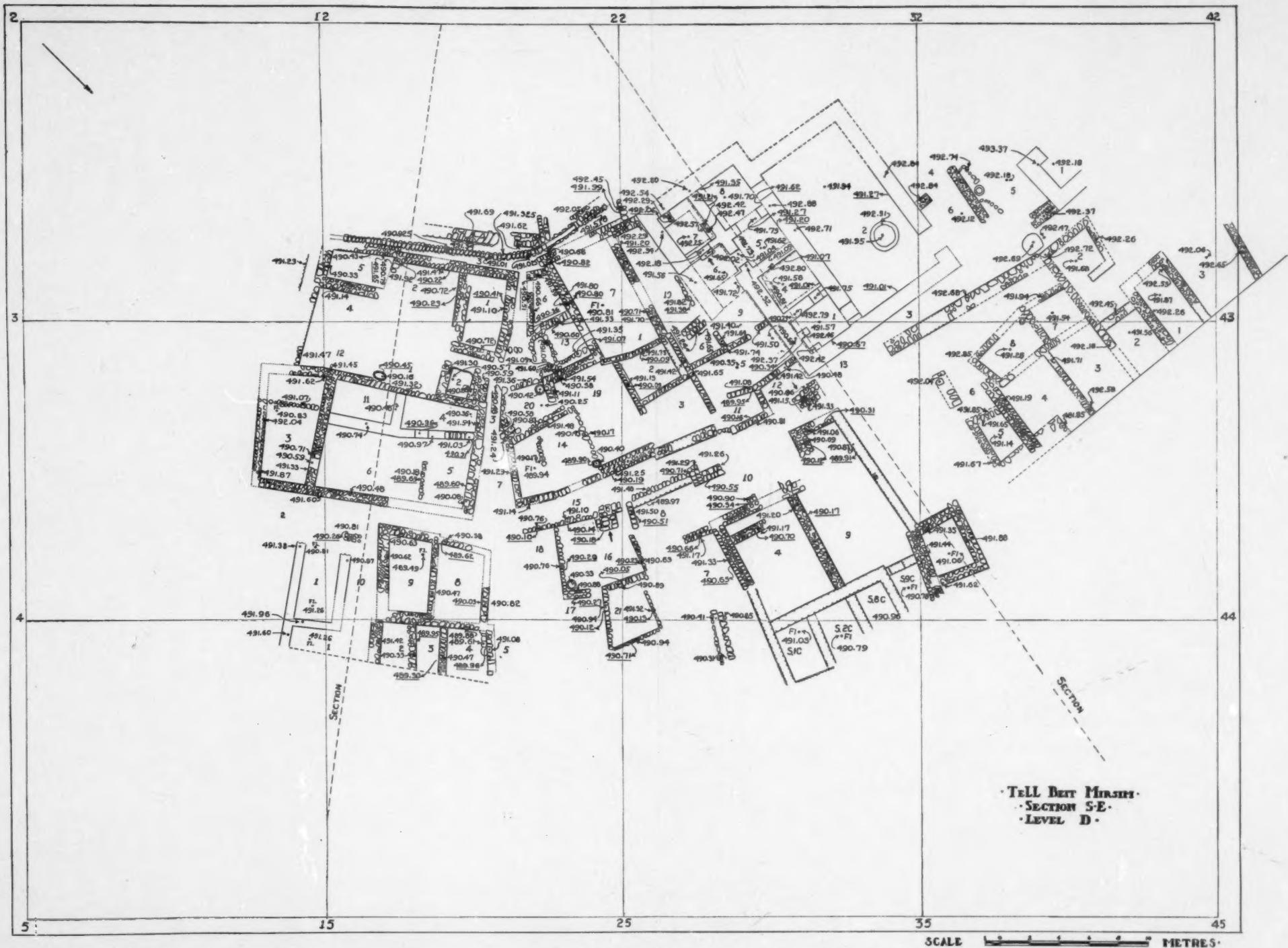


PLATE 51

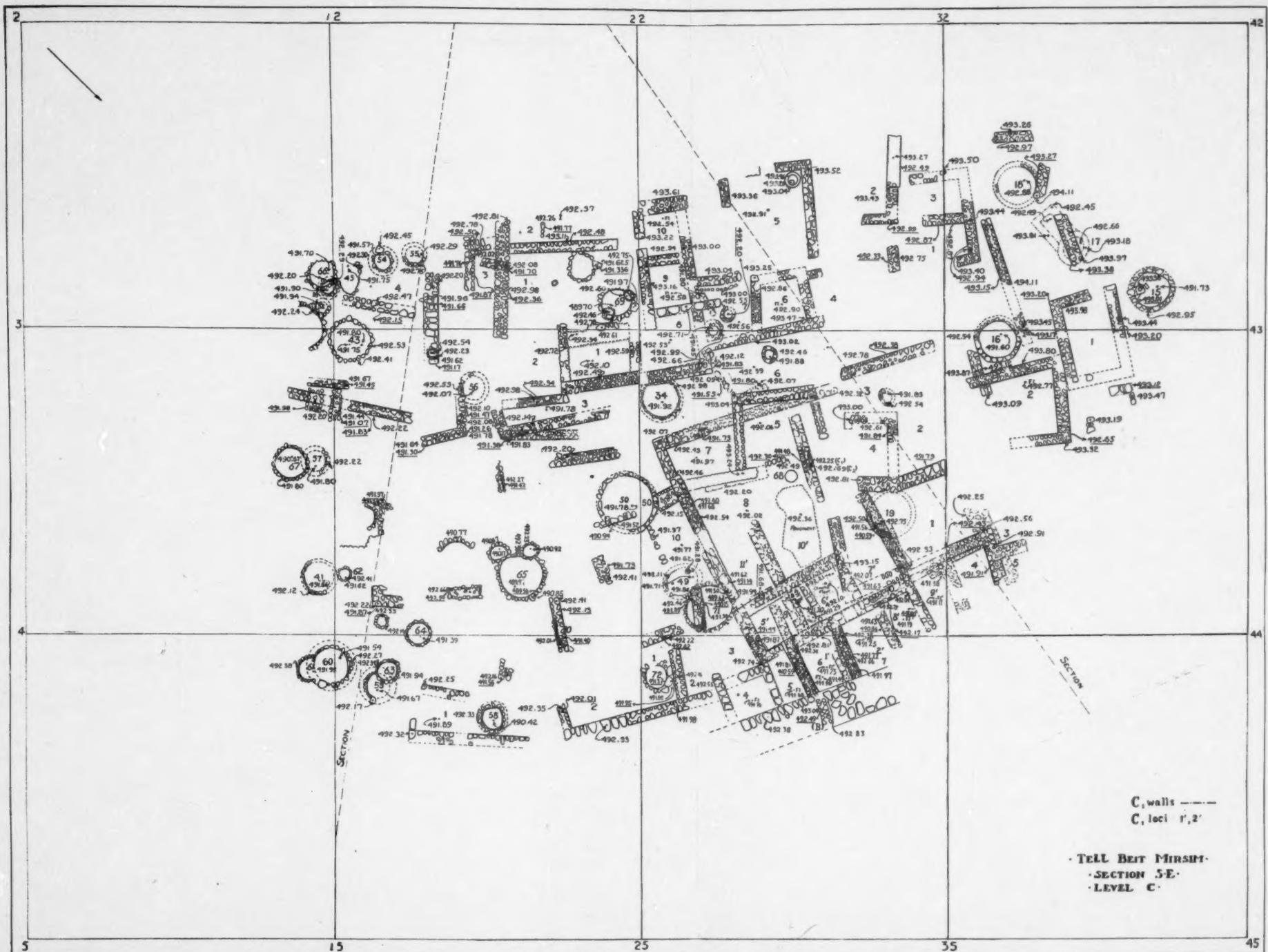
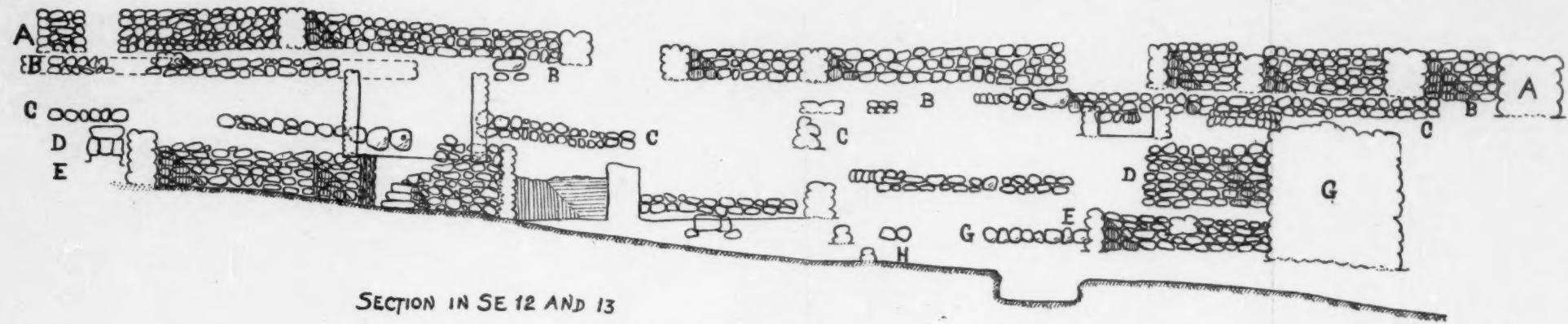


PLATE 52

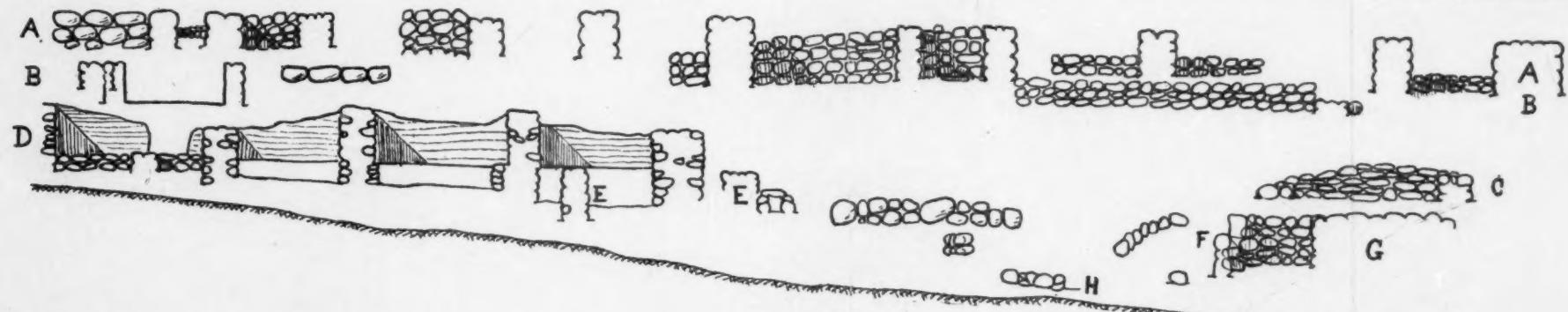
SECTION LINE 495.72 M.



SECTION IN SE 12 AND 13

A

SECTION LINE 495.72 M.

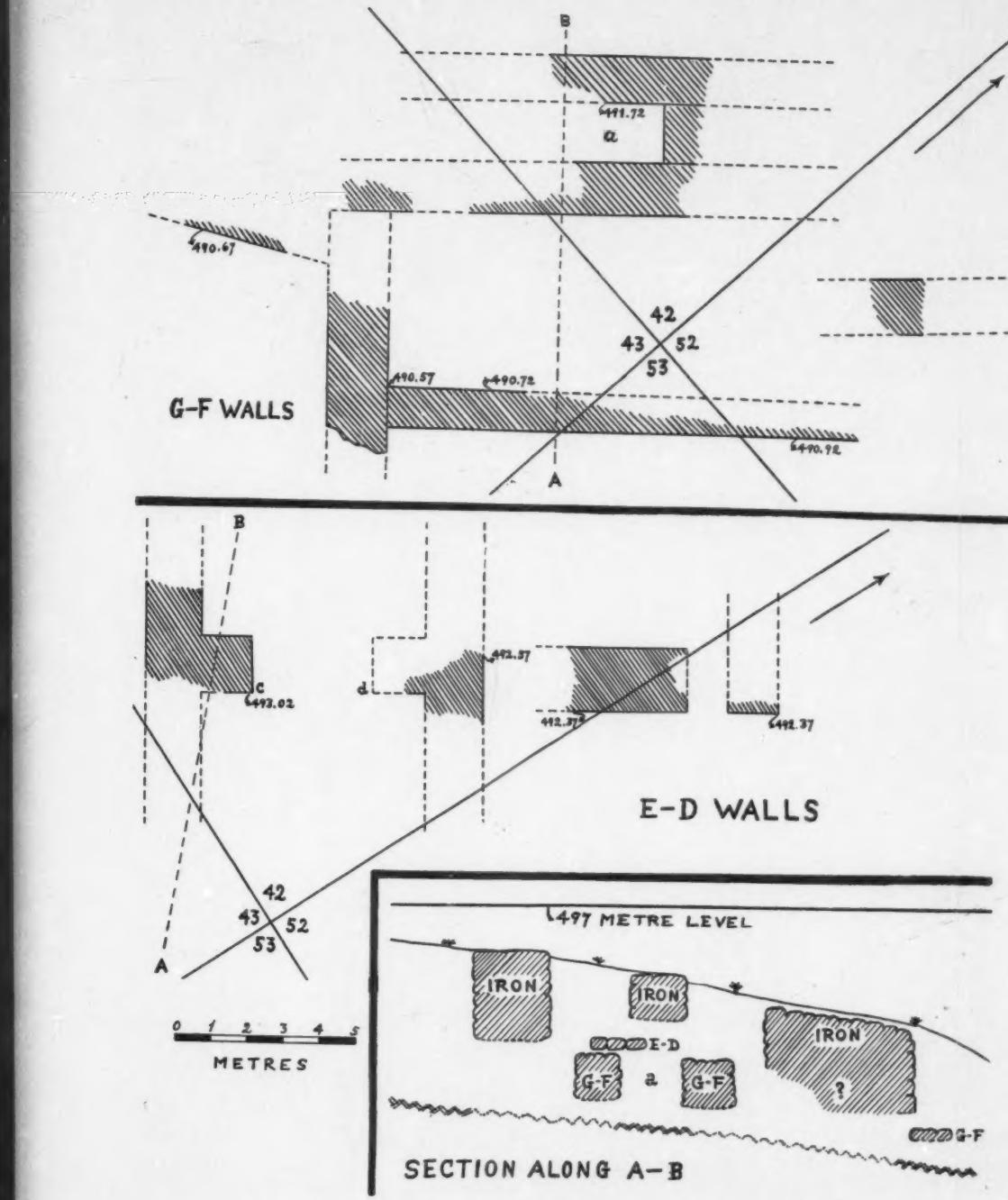


SECTION IN SE 22, 23 AND 33

B

SCALE 1 2 4 METRES

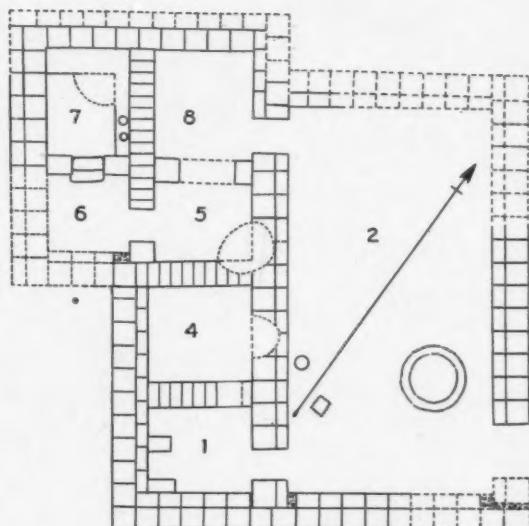
PLATE 53



TELL BEIT MIRSIM  
SECTION SE  
LEVEL D

22 X  
↓

23 X



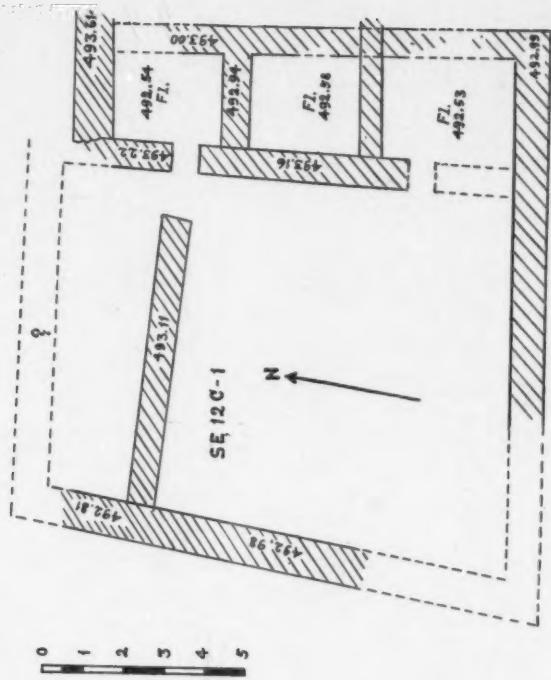
32 X

33 X

Scale 1 0 2 4 6 8 10 Metres

C<sub>2</sub>

PLATE 56



G

